APPENDIX 2
CHARACTERISATION OF THE CAPPED WASTE STOCKPILE

Part 1 Characterisation of the Capped Waste Stockpile

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Hydro Aluminium Kurri Kurri Pty Ltd

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CAPPED WASTE STOCKPILE ASSESSMENT



RAMBOLL ENVIRON

CAPPED WASTE STOCKPILE ASSESSMENT

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1. INTRODUCTION

This report presents the findings of the Capped Waste Stockpile Environmental Assessment, performed at the former Hydro Kurri Kurri Aluminium Smelter. The Smelter is located off Hart Road, Loxford, New South Wales (NSW), and is hereinafter referred to as 'the site'. The investigation was undertaken on the Capped Waste Stockpile located at the site, and is shown in **Figure 1** in **Appendix A**. This report provides information on the composition of the Capped Waste Stockpile, as well as an assessment of the soil and groundwater conditions beneath the Capped Waste Stockpile.

1.1 Background

The Capped Waste Stockpile (formally known as the Alcan Mound) is an on-site stockpile comprising mixed smelter wastes that were capped in 1995. The stockpile originated during early site operations between 1969 and 1992, when smelter wastes were stored within onsite storage facilities situated along the eastern smelter boundary. Approximately 100,000 m^3 of mixed wastes including Spent Potlining was stored in this area. In the mid 1980's changes to legislation regarding the storage of aluminium smelter wastes resulted in the improvement of storage and waste management on the site. These improvements resulted in the consolidation of wastes into one stockpile and the capping of that stockpile, now referred to as the Capped Waste Stockpile.

Investigations commencing in the mid 1980's identified that the historical uncapped method of waste storage had resulted in leachate impacts to groundwater downgradient of the site and that a plume of leachate impacted groundwater was present extending approximately 250m to the north east of the Capped Waste Stockpile. The capping of the Capped Waste Stockpile in 1995 was designed to reduce ongoing leachate generation.

1.2 Objectives

The objective of the study is to provide a preliminary assessment of the composition of the Capped Waste Stockpile and the soil and groundwater conditions beneath the stockpile. The primary focus of the work was to identify the following:

- Thickness of gas buffer zone within the Capped Waste Stockpile;
- Composition of material within the Capped Waste Stockpile;
- Depth and composition of underlying natural material;
- Depth to leachate and groundwater;

The work also aimed to:

- Assess the groundwater conditions beneath the Capped Waste Stockpile; and
- Assess the soil conditions beneath the Capped Waste Stockpile.

1.3 Scope of Work

The scope of works comprised the following elements:

- Review of available borelogs for previously drilled bores adjacent to the Capped Waste Stockpile;
- Development of a health and safety methodology to safely drill within the waste stockpile;
- Drilling of six boreholes within the Capped Waste Stockpile via Sonic drill rig;
- Conversion of the six boreholes into groundwater monitoring wells;
- Log and photograph material encountered within the Capped Waste Stockpile;
- Sampling and analysis of materials within the waste profile for the purpose of waste characterisation;
- Soil sampling and analysis of natural soils beneath Capped Waste Stockpile;

- Survey of all six installed groundwater wells, including the top of casing elevations surveyed to Australian Height Datum (AHD);
- Development of all six newly installed groundwater monitoring wells;
- Groundwater sampling of the six newly installed groundwater monitoring wells for:
  - Water quality parameters; and
  - Laboratory analysis.
- Preparation of this factual report detailing:
  - Materials encountered within and beneath the Capped Waste Stockpile;
  - Groundwater conditions encountered;
  - Figures detailing sample locations; and
  - Data validation and interpretation of results.

2. METHODOLOGY

2.1 Fieldwork

The fieldwork methodology for soil sampling is outlined in Table 2.1 below:

Table 2.1: Soil Field Methodology

Activity	Details
Soil Logging	Soil logging was undertaken by a suitably qualified and experienced environmental scientist from Ramboll Environ. The logging of the Capped Waste material was undertaken with the assistance of Hydro personnel experienced with the site's smelter wastes. The borelogs in **Appendix B** and Table 2.2 below provide a description of the capped waste stockpile composition.
Field monitoring	Monitoring of gas levels within the boreholes was undertaken between each 3m rod length. Gases of primary interest were ammonia and methane, though monitoring for oxygen, carbon dioxide, hydrogen sulfide and lower explosive limit was also undertaken. Wells were purged using nitrous oxides where gas levels reached health and safety trigger levels in accordance with the health and safety protocols.
Intrusive Investigation Method	All boreholes were drilled using sonic rig coring to the required depth of the investigations.
Soil Sampling	Soil sampling of the fill material, as well as the natural underlying soils was completed during the assessment. A minimum of five samples were collected for laboratory analysis from each of the six borehole locations. Soil samples were collected based on observations in the field. The borelogs in **Appendix B** show the depths of soil sampling.
Soil Screening	Screening of soil samples for the presence of volatile contaminants was not undertaken, as volatile contaminants were not the main chemicals of concern. Samples were selected for laboratory analysis based on visual observations in the field.
Decontamination	A hand trowel was the only non-disposable sampling equipment used. The hand trowel was decontaminated by washing in a Decon90 solution and rinsing with water between samples.
Disposal of Soil	Soil cores were collected in plastic sleeves and stored in core boxes onsite.

The locations of the boreholes are shown on **Figure 2** in **Appendix A.**

2.2 Soil Observations

Table 2.2 below provides a general composition of material encountered during the drilling of boreholes in the capped waste stockpile.

Table 2.2: Subsurface Conditions beneath the Capped Waste Stockpiles

Depth (mbgs)	Lithology
0 – 0.5	Topsoil, SAND, brown, fine to medium grained, moist
0.5 – 1.6	CLAY, red and grey mottled, medium plasticity, dry (stockpile cap)
1.6 – 1.8	Gravel, dark grey / black, fine to medium grained (gas buffer layer)
1.8 – 12	Carbon, spent potlining (85 %), bath (5 %), and other material such as steel and clay (10 %)
>12	A mixture of sands and clays. Clays encountered were generally stiff with medium to high plasticity

A full description of material encountered is provided in the borelogs in **Appendix B**. **Photographs 1** to **7** in **Appendix C** provide a further description of the material encountered.

2.3 Groundwater Sampling

The fieldwork methodology for groundwater sampling is outlined in Table 2.3 below:

Table 2.3: Groundwater Field Methodology

Activity	Details
Well Installation	Groundwater wells were installed to target either groundwater within the capped waste stockpile, or groundwater beneath the stockpile. Wells installed below the base of the waste were sealed at the waste and natural soil interface. The wells were constructed using machine slotted 50 mm PVC screen from the base of the well to the top of the intercepted groundwater depth (where encountered) and screw threaded 50 mm PVC casing extended to the surface. The well annulus was backfilled with 2 mm graded sand to approximately 0.5 m past the top of the screen. This was followed by bentonite backfill for approximately 1 m, and then backfill with grout to the surface. Where the grout could not be effectively used as backfill due to large voids, bentonite backfill and soil cuttings were used in conjunction with grout. A lockable steel monument was installed with a concrete base over the well.
Well Development	Wells were developed by bailing the wells dry, or twelve well volumes with a bailer.
Well Gauging	Monitoring wells were gauged using an oil / water interface probe. The interface probe was decontaminated between each measurement.
Well Purging	Groundwater purging and sampling was completed a minimum of five days following well installation. At least 0.5 L was removed from each monitoring well (where water was encountered) using low flow peristaltic sampling equipment. Groundwater parameters, including pH, temperature, dissolved oxygen, redox potential and electrical conductivity were recorded using a water quality meter during purging. Field sheets are provided in **Appendix D**.
Sampling Methods	Following stabilisation of groundwater parameters, sampling was completed using low flow techniques.
Decontamination	A short length of silicone tubing used in the peristaltic pump was decontaminated using Decon90 and potable water. All other pump components were disposable.
Disposal of Water	Groundwater collected during purging and sampling was disposed of to the surge pond.
Monitoring Well Survey	Groundwater monitoring wells were surveyed following installation. A plan showing the survey is presented in in **Figure 3** in **Appendix A**.

2.4 Groundwater Observations

During the drilling of the new wells, groundwater was encountered within 5 of the 6 newly installed wells. The measured groundwater ranged between 12.19 and 13.21 mbgs.

The newly installed groundwater wells were gauged during groundwater sampling, as shown in **Table 2.4** below. Groundwater encountered within the newly installed monitoring wells was generally described as “turbid, brown”. This description is consistent with other leachate impacted groundwater within the nearby proximity to the capped waste stockpile. **Photographs 8** and **9** in **Appendix C** provide a further description of the groundwater encountered in MW206.

Table 2.4: Depth to Water (mAHD)

Well ID	Screened Interval (mbgs)	Screened Material	Depth to base of waste (mbgs)	Depth to Water (mbgs) 2015	Depth of Well (mbgs)
MW201	4.5 – 10.5	Waste	10.5	-	10.47
MW202	14 - 15.5	Clayey SAND	12.0	12.19	15.42
MW203	12 – 14	Sandy CLAY	12.0	13.21	14.12
MW204	12.6 – 13.3	Clayey SAND	12.0	12.49	13.72
MW205	12 – 12.5	SAND	12.0	12.38	12.56
MW206	11.8 – 14.8	SAND and Waste	12.0	12.45	14.85

- No groundwater encountered.

Groundwater parameters were recorded during groundwater sampling, including pH, electrical conductivity (EC), redox potential, dissolved oxygen and temperature. This data is presented in Table 2.5 and field sheets are included in **Appendix D**.

Table 2.5: Groundwater Parameters

Well ID	pH	EC (µS/cm)	DO (ppm)	Redox (Eh)	Temp (°C)	TDS (ppk)
MW201	DRY					
MW202	9.08	26,800	0.08	-276	21.2	17.1
MW203	9.16	17,500	0.15	-244	21.9	11.39
MW204	10.28	36,800	0.24	-147	22.3	23.9
MW205	DRY					
MW206	10.68	42,600	0.06	-363	23.4	27.8

The electrical conductivity within the groundwater monitoring wells ranged between 17,500 and 42,600 µS/cm. Additionally, the pH within the groundwater monitoring wells ranged from 9.08 and 10.68 pH units. Elevated pH, EC and TDS are indicative of leachate impacts.

3. ASSESSMENT CRITERIA

3.1 Soil

The criteria proposed for the assessment of soil contamination were sourced from the following references.

3.1.1 NEPM 2013

The variation to the National Environmental Protection (Assessment of Site Contamination) Measure (NEPM 2013) was approved on 19 June 2013 by the NSWEPA under the Contaminated Land Management Act 1997. NEPM (2013) provide revised health-based soil investigation levels (HILs) and ecological-based investigation levels (EILs) for various land uses. The NEPM 2013 also introduces health-based and ecological screening levels and management limits for petroleum hydrocarbons (HSLs and ESLs). The levels have been derived from recent assessments that more accurately define the exposure mechanisms and risks from sites contaminated with petroleum hydrocarbons.

The guidelines adopted for the site from the NEPM are as follows:

- HIL D – Health investigation level for commercial/industrial such as shops, offices, factories and industrial sites. The HILs are applicable for assessing human health risk via all relevant pathways of exposure. The HILs are generic to all soil types and apply generally to a depth of 3 m below the surface for industrial use.

  The NEPM (2013) commercial/industrial values were derived assuming a typical commercial or light industrial scenario, consisting of single or multistorey buildings where work areas are on the ground floor. NEPM (2013) assumed that the commercial/industrial facility is largely covered by handstand with some limited areas of unsurfaced ground (20% of site is unsurfaced). Opportunities for direct access to soil by employees was considered minimal but there is a potential for employees to inhale, ingest or come into direct contact with dust particles derived from the soil on the site. In absence of site specific details, the generic industrial site use exposure profiles are considered applicable.

- HSLs for commercial/industrial use - Health screening levels for soil vapour intrusion from petroleum hydrocarbons are guidelines that prevent accumulation of vapours at concentrations that may represent a health risk. The HSLs are derived for various depths and are for the same generic land uses as for the HILs. The guidelines are relevant where soils are beneath buildings or structures such as confined spaces;

- EIL for commercial/ industrial use – ecological investigations levels applicable for assessing risk to terrestrial ecosystems. EILs depend on specific soil physicochemical properties and generally apply to the top 2 m of soil.

- ESLs for commercial/ industrial use – ecological screening levels developed for selected petroleum hydrocarbon compounds and fractions and are applicable for assessing risk to terrestrial ecosystems. These are also generally applicable to the top 2m of soil.

- Management Limits where concentrations above these limits may indicate poor aesthetics, high odour and potentially explosive vapour. Management limits are to be applied after consideration of relevant ESLs and HSLs.

The applicable assessment criteria for heavy metals and polynuclear aromatic hydrocarbons (PAHs) in soil are presented in **Table 3.1**.

Table 3.1: Soil Assessment Criteria (mg/kg) – Health and Ecological Investigation Levels		
	HIL D	EIL
Aluminium	NL (site-specific)2	-
Mercury (inorganic)	730	-
Fluoride	17,000 (site-specific)1	-
Cyanide (free)	1500	-
Carcinogenic PAHs (as BaP TEQ)	40	-
Total PAHs	4000	-
DDT	-	640
Naphthalene	-	370

1 Site-specific industrial fluoride value calculated in the *Preliminary Screening Level Health Risk Assessment for Fluoride and Aluminium (ENVIRON 2013)*

2. NL: indicates that the site-specific risk-based aluminium screening criteria for industrial soil is a concentration greater than physically possible in soil, and therefore the criteria is defined as 'Non-Limiting' or NL (ENVIRON 2013).

The applicable assessment criteria for petroleum hydrocarbons in soil are presented in **Table 3.2** and **Table 3.3**.

Table 3.2: Soil Assessment Criteria for Vapour Intrusion - HSL D (mg/kg) - Sand				
	0 to <1m	1m to <2m	2m to <4m	4m+
Toluene	NL	NL	NL	NL
Ethylbenzene	NL	NL	NL	NL
Xylenes	230	NL	NL	NL
Naphthalene	NL	NL	NL	NL
Benzene	3	3	3	3
F1(4)	260	370	630	NL
F2(5)	NL	NL	NL	NL

1 The soil saturation concentration (Csat) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds Csat, a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'.

2 (For soil texture classification undertaken in accord with AS 1726, the classifications of sand, silt and clay may be applied as coarse, fine with liquid limit <50% and fine with liquid limit>50% respectively, as the underlying properties to develop the HSLs may reasonably be selected to be similar. Where there is uncertainty, either a conservative approach may be adopted or laboratory analysis should be carried out.

3 To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.

4 To obtain F2 subtract naphthalene from the >C10-C16 fraction.

Table 3.3: ESLs and Management Limits for Petroleum Hydrocarbons in Soil			
TPH fraction	Soil texture	ESLs (mg/kg dry soil)	Management Limits[1] (mg/kg dry soil)
		Commercial and Industrial	Commercial and Industrial
F1 C6-C10	Coarse	215*	700
F1 >C6-C10	Coarse	215	1000
F2 >C10-C16	Coarse	170	1000
F3 >C16-C34	Coarse	1700	3500
F4 >C34-C40	Coarse	3300	10 000
Benzene	Coarse	75	-
Toluene	Coarse	135	-
Ethylbenzene	Coarse	165	-
Xylenes	Coarse	180	-
Benzo(a)pyrene	Coarse	72[5]	-

1 Management limits are applied after consideration of relevant ESLs and HSLs.

2 Separate management limits for BTEX and naphthalene are not available hence these should not be subtracted from the relevant fractions to obtain F1 and F2.

3 ESLs are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability.

4 To obtain F1, subtract the sum of BTEX from C6-C10 fraction.

5 Benzo(a)pyrene ESL criteria from Canadian Council of Ministries of the Environment (2010) Canadian Soil Quality Guidelines Carcinogenic and Other PAHs (Environmental and Human Health Effects) Scientific Criteria Document (revised)

NEPM (2013) includes a low reliability ecological screening criterion for benzo(a)pyrene of 1.4 mg/kg for commercial/industrial land use. This criterion has been adopted from Environment Canada (1999) benzo(a)pyrene soil quality guideline, which is based on toxicity data for a single invertebrate species (an earthworm). Environment Canada revised their benzo(a)pyrene soil quality guideline in 2010 using the Species Sensitivity Distribution method, which is the preferred method for the derivation of ecological investigation levels and can only be used where sufficient toxicity data are available that adhere to rigorous quality control requirements. Ramboll Environ has elected to use the revised Environment Canada soil quality guideline of 72 mg/kg, for commercial/industrial land use, as the most relevant ecological investigation level for benzo(a)pyrene at the Smelter Site as this guideline has been derived from a larger and more up-to-date toxicity database than the NEPM (2013) low reliability criterion.

NEPM (2013) do not provide criteria for fluoride in soils in Australia. Therefore, Ramboll Environ (2013) conducted a preliminary level Human Health Risk Assessment (HRA) specific to fluoride in order to derive a specific preliminary screening level for fluoride for the Hydro Aluminium Kurri Kurri Smelter. The screening levels are protective of the range of human receptors and are provided in **Table 3.4**.

Table 3.4: Site Specific Soil Assessment Guidelines for Fluoride (mg/kg)	
Preliminary screening levels	
Land Use	Preliminary screening level
Commercial/ industrial - soil	17,000mg/kg

Consistent with the guidance provided in the NEPM, the data was assessed against the above adopted site guidelines by:

- Comparing individual concentrations against the relevant guidelines and if discrete samples are in excess of the relevant guideline then;
- Comparing the 95% upper confidence limit of mean against the relevant guideline also ensuring that:
  - the standard deviation of the results is less than 50% of the relevant investigation or screening level, and
  - no single value exceeds 250% of the relevant investigation or screening level.

3.1.2 Waste Assessment

A preliminary waste characterisation has been undertaken to identify the likely classification of the fill material within the stockpile. The material has been screened against the NSW EPA Waste Classification guidelines, and the NSW EPA – Chemical Control Order in Relation to Aluminium Smelter Wastes Containing Fluoride and/or Cyanide.

3.1.2.1 NSW EPA Waste Classification Guidelines

The criteria to be used for the preliminary waste assessment of the stockpiled fill material for disposal off-site are the NSW EPA (2014) Waste Classification Guidelines. Part 1: Classifying Waste, 2014.

Waste classification is two tiered. The first set of guidelines is based on total contaminant concentrations, whereas the second set of guidelines is based on a leachable (TCLP) concentration and a total contaminant concentration. Material can be classified as General Solid Waste, Restricted Solid Waste, Hazardous Waste, and/or Special Waste by these guidelines.

'Special Waste' is a class of waste that has unique regulatory requirements, such as asbestos waste. If special waste is mixed with restricted solid or hazardous waste, it needs to be managed as both of those classifications as applicable.

3.1.2.2 NSW EPA – Chemical Control Order in Relation to Aluminium Smelter Wastes Containing Fluoride and/or Cyanide

Chemical control orders are a primary regulatory tool under the Environmentally Hazardous Chemicals Act 1985 (EHC Act) and are used by the EPA to selectively and specifically control particular chemicals of concern, and limit their potential or actual impact on the environment. Chemical control orders complement other environmental legislation by providing a rapid and flexible mechanism for responding to emerging chemical issues.

Chemical control order in relation to aluminium smelter wastes containing fluoride and/or cyanide (1986) sets controls on activities throughout the chemical's lifecycle through general requirements and by requiring that certain things be subject to particular licence conditions.

3.2 Groundwater

The assessment criteria proposed for the assessment of groundwater contamination are sourced from the following references:

- National Environment Protection Council (2013) National Environmental Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM 2013).
- National Health and Medical Research Council (2008) Guidelines for Managing Risks in Recreational Water.

- NSW DEC (2007) Guidelines for the Assessment and Management of Groundwater Contamination.
- ANZECC & ARMCANZ (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

3.3 Potential Beneficial Uses

NSW DEC (2007) indicates that for assessing groundwater quality, it is first necessary to assess the beneficial uses of groundwater and surface water down gradient of the site.

The closest off-site surface water receptor is Swamp Creek which is located approximately 410 m to the south, and 530 m to the east of the capped waste stockpile. This creek is located within an area of the buffer zone that is used for farming. Swamp Creek discharges to the Wentworth Swamp which in turn discharges to the Hunter River approximately 15km north-east of the site near Maitland.

Surface water within Swamp Creek is described generally as neutral, ranging between pH 7.0 and 7.8 and conductivity being generally fresh, ranging from 626µS/cm to 1520µS/cm. This surface water body is considered to be a fresh water receptor.

Groundwater is expected to follow the topography and flow north-east towards surface water bodies that feed into the Hunter River.

According to the Office of Industry and Investment, NSW, there are 17 licensed groundwater abstractions (bores) located within the site, which are known to be associated with monitoring of groundwater impact. There are no other licensed groundwater bores within 2km of the site.

Potential beneficial uses of groundwater down gradient of the site include:

- Discharge into Swamp Creek, which supports aquatic ecosystems and potentially flows into the Hunter River;
- Recreational use of Swamp Creek for swimming and fishing; and
- Abstraction of surface water from Swamp Creek which may be used for stock watering and/ or irrigation.

3.4 Appropriate Criteria for Groundwater

Based on the review of potential beneficial uses of groundwater and surface water, the criteria for protection of aquatic ecosystems, recreation, irrigation and stock watering will be used.

The investigation levels presented in ANZECC & ARMCANZ (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality are considered applicable for the protection of aquatic ecosystems of receiving waters. ANZECC (2000) advocates a site-specific approach to developing guideline trigger values based on factors such as local biological affects data and the current levels of disturbance of the ecosystem. The guidelines present ‘low risk trigger values’ which are defined as concentrations of key performance parameters below which there is a low risk of adverse biological effects. If these trigger values are exceeded, then further action is required which may include further site-specific investigations to assess potential contamination or management/remedial action.

Low risk trigger values are presented in Table 3.4.1 of ANZECC (2000) for the protection of 80-99% of species in fresh and marine waters, with trigger values depending on the health of the receiving waters.

Groundwater results will be compared against trigger values for the protection of 95% of freshwater species where available (low reliability values are used in absence of high reliability values). ANZECC (2000) indicates there is currently insufficient data to derive a high reliability trigger value for TPH but propose a low reliability trigger value of 7 µg/L. This guideline is considered by industry to be overly conservative and is well below the TPH detection limit that most laboratories can achieve. Therefore the limit of reporting (LOR) will be adopted as a screening trigger for TPH.

Guidelines for Managing Risks in Recreational Water (2008) indicates that a qualitative assessment of recreational use can be undertaken using 10 times the concentrations of chemicals stipulated in the Australian Drinking Water Guidelines (2011). This is based on an assumed contribution for swimming equivalent to 10% of drinking water consumption.

Investigation levels for livestock drinking water are not available for organic contaminants, such a TPH and PAHs. In the absence of available investigation levels, human health drinking water levels will be used from NHMRC (2011) Australian Drinking Water Guidelines for screening criteria.

The Ramboll Environ (2013) Health Risk Assessment identified a preliminary screening criteria of 1,500 µg/L for fluoride for recreational use. This guideline value has been adopted in this evaluation as Swamp Creek, the closest surface water body, is used recreationally. The guideline that is protective of aquatic ecosystems has not been developed.

A summary of the assessment criteria for groundwater are provided in Table 3.5.

Table 3.5: Groundwater Assessment Criteria (µg/L)

Contaminant	95% Protection for Aquatic Ecosystems	Recreational use	Irrigation (long-term trigger value)	Stock Watering
Aluminium	55	9000 (site-specific)	5000	5000
Fluoride	-	1500 (site-specific)	1000	2000
Arsenic (AsIII)	24	100	100	500
Cadmium	2 (HMTV)	20	10	10
Chromium (CrIII)	27 (HMTV)	500 (as CrVI)	100	1000
Copper	12 (HMTV)	20,000	200	500
Lead	87 (HMTV)	100	2000	100
Nickel	97 (HMTV)	200	200	1000
Zinc	70 (HMTV)	30,000	2000	20,000
Mercury	0.6	10	2	2
TPH C6-C36	LOR	-	LOR	LOR
Benzene	950	10	-	-
Toluene	180 (LR)	250	-	800 (25)
Ethylbenzene	80 (LR)	30	-	300 (3)
Xylene	200	200	-	600 (20)
Benzo(a)pyrene	0.2 (LR)	0.1	-	0.01
Naphthalene	16	-	-	-
Phenanthrene	2	-	-	-
Fluoroanthene	1	-	-	-
Cyanide (free)	7	800	-	-

Notes:

HMTV: hardness modified trigger values calculated in accordance with ANZECC (2000) methodology

LR: low reliability trigger values

Site-specific: fluoride and aluminium recreational values are site-specific and were calculated in the Preliminary Screening Level Health Risk Assessment for Fluoride and Aluminium (ENVIRON, 2013)

4. QUALITY ASSURANCE AND QUALITY CONTROL

The following quality assurance/quality control (QA/QC) procedures were employed during the sampling program:

- All samples were collected by personnel trained and experienced in the collection of soil groundwater samples for analysis, using standard industry techniques for sample collection;
- All reusable sampling equipment was decontaminated with Decon90 prior to sampling to minimise the opportunity for cross contamination;
- All samples were promptly placed in clean, laboratory-supplied containers appropriate for the required analyses and containing the appropriate preservative;
- All samples were labelled with unique names, identifying location and date;
    - All samples were immediately placed in chilled coolers;
    - All samples were sent to the laboratory under chain-of-custody (COC) protocols;
    - All samples were analysed within the recommended holding times;
    - The water quality meter, LELs, and PID were hired from a rental company who calibrated the equipment prior to hire. The LELs and PID were also calibrated in the field each day prior to use. The daily calibration results are provided in the Field Sheets in **Appendix D**. Calibration certificates from the equipment suppliers are shown in **Appendix E**;
- The following quality control samples were also collected and submitted for analysis:
    - Three soil intralaboratory field duplicate;
    - One soil interlaboratory field duplicate;
    - One groundwater intralaboratory field duplicate;
    - One groundwater rinsate blank for alkalinity, sulfate, chloride, sodium, potassium, aluminium, mercury, cyanide, fluoride, PCBs, PAHs, TPH, TRH, and BTEXN.

A quality assurance assessment for this report is presented in **Table 4.1** below. An assessment was made of data completeness, comparability, representativeness, precision and accuracy based on field and laboratory considerations. Laboratory reports are provided in **Appendix F**.

Table 4.1: QA/QC – Field and Laboratory Quality Assurance and Quality Control

Field and Lab QA/QC	Ramboll Environ Comments
	Intralaboratory duplicate groundwater samples were analysed at a rate of 9%. Intralaboratory duplicate soil samples were analysed at a rate of 3%. One rinsate blank was collected from the LDPE tubing for the groundwater sampling. The water quality meter, LELs, PID were calibrated by the equipment supplier prior to hire of the equipment. The LELs and PID were calibrated daily in the field, with the exception of Day 1. Standard practice is to rely on pre-hire calibration for first day of use, or short periods of hire.

Table 4.1: QA/QC – Field and Laboratory Quality Assurance and Quality Control	
Field and Lab QA/QC	**Ramboll Environ Comments**
Field quality control results	Intralaboratory duplicate and rinsate blank results are presented in Table 3 and 4 in **Appendix G**. The rinsate blank results were all below the LOR, with the exception of aluminium. Aluminium (40 µg/L) was above the LOR (10 µg/L). Relative Percent Differences (RPDs) in soil were all below the RPD criteria with the exception of: MW202-13.5/QA101 - chloride, potassium, aluminium and fluoride (total). MW203-2.5/QA100 – sodium, fluoride (soluble), naphthalene, acenaphthene, fluorene, anthracene, fluoranthene, pyrene, and sum of PAHs; and MW204-2.5/QA101/QA201 – sodium, fluoride (soluble), phenanthrene, fluoranthene, pyrene, and sum of PAHs. In the instances listed above, the RPD for soil results between the primary and duplicate sample has been reported as greater than 30%. These discrepencies have been reviewed and are considered to be a result of sample heterogeneity. The highest concentration has been reported in each instance in order to be conservative. RPDs in groundwater were all below the RPD criteria with the exception of bicarbonate alkalinity and some PAH compounds.
NATA registered laboratory and NATA endorsed methods	ALS was used as the primary laboratory. Eurofins MGT was used as the secondary laboratory. The laboratory certificates are NATA stamped. Laboratory reports are provided in **Appendix F**.
Analytical methods	Summary analytical methods were included in the laboratory test certificates.
Holding times	Review of the CoCs and laboratory certificates indicate that holding times were predominantly met. Four samples were extracted for analysis 8 days out of holding time. Additionally, one sample was extracted and analysed 6 days out of holding time.
Practical Quantitation Limits (PQLs)	PQLs for all soil analytes were below the adopted screening criteria. PQLs for all groundwater analytes were below the adopted screening criteria, with the exception of ethylbenzene, and free cyanide.
Laboratory quality control samples	Laboratory quality control samples including duplicates, laboratory control samples, matrix spikes, surrogate spikes and blanks were undertaken by the laboratories at appropriate frequencies, with the exception of the following: Soil Moisture content duplicate (ES1536271); Cations and Major Anions duplicate (ES1535096, ES1535263); and Total Metals matrix spike (ES1535096, ES1535263, ES1535499 and ES1535624). Groundwater PAH/Phenols, PCB, TRH (semi-volatile) duplicate (ES1535970); and Dissolved metals, PAH/Phenols, PCBs, TRH (semi-volatile) matrix spikes (ES1535970).

Table 4.1: QA/QC – Field and Laboratory Quality Assurance and Quality Control	
Field and Lab QA/QC	**Ramboll Environ Comments**
Laboratory quality control results	The results for method blanks, laboratory duplicates, laboratory control samples (LCS), matrix spikes and surrogates were considered to be within the limit of reporting, with the exception of: Soil Matrix spike recoveries for total cyanide (ES1535096, ES1535624), chloride (ES1535263), fluoride (ES1535499, ES1536271), and pyrene (ES1536271) were outside of acceptable limits due to high background concentrations; LCS recoveries for alkalinity (ES1535096, ES1535263), and 2-4 dichlorophenol, bis(2-chloroethyl)ether, hexachlorocyclopentadiene, and diazinon (ES1536271) were outside of the LCS acceptance criteria; and Duplicate RPDs were outside of the acceptable limits for mercury (ES1535263), benzo(a)pyrene, sum of PAHs (ES1535499, ES1535624), benz(a)anthracene, benzo(a)pyrene, benzo(b+j)&benzo(k)fluoranthenene, fluoranthene, and pyrene (ES1536271). Groundwater Matrix recoveries for sulfate and Fluoride (ES1535970) due to high background concentrations; and Surrogate recovery for 2.4.6-Tribromophenol (ES1535970). These outliers are not considered to affect the quality of the data.

Overall it is considered that the completed investigation works and the data obtained adequately complied with the requirements of NEPM Amendment 2013. Minor exceedences of some quality control parameters are considered acceptable given the variability of the materials, the high inorganic content and the purpose of the data evaluation. In general, the Data Quality Indicators of completeness, comparability, representativeness, precision and accuracy outlined above have been met. It is considered that the data are of suitable quality to meet the project objectives.

5. RESULTS

5.1 Gas

Table 5.1 below provides a summary of the gas concentrations encountered during the drilling works.

Table 5.1: Gas Concentrations Recorded During Drilling

Well	Depth (mbgs)	O2 (%)	CO (ppm)	NH3 (ppm)	LEL[1] (%)	H2S (ppm)	Comments
MW201	3	20.1	30	0	0	-	-
	6	16.0	OR*	208	16	-	-
	9	3.2	OR*	OR**	69	-	-
MW202	3	5.1	925	0	53	-	-
	6	17.0	300	0	0	-	-
	9	16.0	215	0	0	-	-
	12	15.2	250	0	0	-	-
	15	12	120	0	0	-	-
MW203	3	20.1	40	0	0	0	-
	6	18.0	350	0	30	0	-
	9	15.0	350	0	23	0	-
	12	16.0	300	3	25	0	-
	15	19.0	125	0	3	0	-
MW204	3	20.0	OR*	OR**	70	-	-
	6	20.1	125	0	3	-	-
	9	5.2	625	OR**	4	-	-
	12	4.6	867	OR**	3	-	-
MW205	3	7.0	1,436	-	36	1.0	-
	6	16.1	62	-	4	1.0	-
	9	18.1	55	-	3	0	-
	12	18.0	45	-	2	0	Water in rods – possibly blocking gas
	15	18.0	35	-	1	1.0	Water in rods – possibly blocking gas
MW206	3	20.1	505	OR**	27	-	-
	6	18.9	216	35	4	-	-
	9	17.0	57	0	3	-	-
	12	17.2	47	0	4	-	Water in rods – possibly blocking gas
	15	18.2	52	0	5	-	Water in rods – possibly blocking gas

*OR – Over Range. Range for Carbon Monoxide 0 - 1,500 ppm.

**OR – Over Range. Range for Ammonia 0 - 500 ppm.

[1]Note: Lower explosive limit (LEL) calibrated to Methane.

The concentrations detected should be considered indicative only. It is considered likely that the water used during the drilling process may have prevented gases from entering the borehole at certain locations and depths.

5.2 Soil

A summary of the soil results from the assessment are provided in Table 5.2 below. Soil samples from the capped waste stockpile and underlying natural soils were analysed for chemicals of concern including cyanide, fluoride, aluminium, petroleum hydrocarbons, PAHs and asbestos. A

full list of soil results are provided in **Table 1** in **Appendix G**, and the laboratory reports are provided in **Appendix F**.

Table 5.2: Chemical Concentrations in waste materials and underlying soils

Analyte	Units	Number of Samples Analysed	Min	Max	No. above GL
Waste materials					
pH Value	pH Unit	18	6.3	11.4	N/A
Electrical Conductivity @ 25°C	µS/cm	0	0	0	N/A
Asbestos	presence	19	No	Yes	6
Aluminium	mg/kg	0	0	0	N/A
Mercury	mg/kg	0	0	0	0
Total Cyanide	mg/kg	18	14	158	0
Total Cyanide (ZHE Leachate)	mg/L	18	0.198	8.54	0
Fluoride (total)	mg/kg	0	0	0	N/A
Fluoride (soluble)	mg/kg	18	184	21100	3
Fluoride (TCLP Leachate)	mg/L	18	68.9	909	15
Total Polychlorinated biphenyls	mg/kg	0	0	0	0
Naphthalene	mg/kg	6	<0.5	8.1	0
Benzo(a)pyrene	mg/kg	6	<0.5	832	3
Sum of polycyclic aromatic hydrocarbons	mg/kg	6	0.5	6320	2
Benzo(a)pyrene TEQ (half LOR)	mg/kg	6	0.6	1210	3
C6 C10 Fraction minus BTEX (F1)	mg/kg	0	0	0	0
>C16 C34 Fraction	mg/kg	0	0	0	0
>C34 C40 Fraction	mg/kg	0	0	0	0
>C10 C16 Fraction minus Naphthalene (F2)	mg/kg	0	0	0	0
Benzene	mg/kg	0	0	0	0
Toluene	mg/kg	0	0	0	0
Ethylbenzene	mg/kg	0	0	0	0
Total Xylenes	mg/kg	0	0	0	0
Sum of BTEX	mg/kg	0	0	0	N/A
Naphthalene	mg/kg	0	0	0	0
Volatile Organic Compounds	mg/kg	7	various	various	N/A
Dibenzofuran	mg/kg	6	<0.5	44.4	N/A
Carbazole	mg/kg	6	<0.5	50.5	N/A
Natural materials immediately beneath waste					
pH Value	pH Unit	6	9.7	10.5	N/A
Electrical Conductivity @ 25°C	µS/cm	6	1750	5250	N/A
Asbestos	presence	0			
Aluminium	mg/kg	6	3330	103000	N/A
Mercury	mg/kg	6	<0.1	0.1	0
Total Cyanide	mg/kg	6	26	734	0

Table 5.2: Chemical Concentrations in waste materials and underlying soils					
Analyte	Units	Number of Samples Analysed	Min	Max	No. above GL
Total Cyanide (ZHE Leachate)	mg/L	0			
Fluoride (total)	mg/kg	6	490	69000	N/A
Fluoride (soluble)	mg/kg	1	2700	2700	0
Fluoride (TCLP Leachate)	mg/L	0			
Total Polychlorinated biphenyls	mg/kg	6	<0.1	0.1	0
Naphthalene	mg/kg	6	<0.5	<0.5	0
Benzo(a)pyrene	mg/kg	6	<0.5	60	0
Sum of polycyclic aromatic hydrocarbons	mg/kg	6	12.5	475	0
Benzo(a)pyrene TEQ (half LOR)	mg/kg	6	0.6	93.2	1
C6 C10 Fraction minus BTEX (F1)	mg/kg	6	<10	<10	0
>C16 C34 Fraction	mg/kg	6	<100	2340	1
>C34 C40 Fraction	mg/kg	6	<100	1120	0
>C10 C16 Fraction minus Naphthalene (F2)	mg/kg	6	<50	<50	0
Benzene	mg/kg	6	<0.2	<0.2	0
Toluene	mg/kg	6	<0.5	<0.5	0
Ethylbenzene	mg/kg	6	<0.5	<0.5	0
Total Xylenes	mg/kg	6	<0.5	<0.5	0
Sum of BTEX	mg/kg	6	<0.2	<0.2	N/A
Naphthalene	mg/kg	6	<1	<1	0
Volatile Organic Compounds	mg/kg	1	various	various	N/A
Dibenzofuran	mg/kg	1	3.5	3.5	N/A
Carbazole	mg/kg	1	6.6	6.6	N/A
Natural soils > 0.5m below wastes					
pH Value	pH Unit	6	9.2	10.5	N/A
Electrical Conductivity @ 25°C	µS/cm	6	100	4030	N/A
Asbestos	presence	0	N/A	N/A	0
Aluminium	mg/kg	6	4460	16100	N/A
Mercury	mg/kg	6	<0.1	<0.1	0
Total Cyanide	mg/kg	6	4	60	0
Total Cyanide (ZHE Leachate)	mg/L	0			
Fluoride (total)	mg/kg	6	90	2140	N/A
Fluoride (soluble)	mg/kg	3	574	2360	0
Fluoride (TCLP Leachate)	mg/L	0			
Total Polychlorinated biphenyls	mg/kg	6	<0.1	<0.1	0
Naphthalene	mg/kg	9	<0.5	<0.5	0
Benzo(a)pyrene	mg/kg	9	<0.5	<0.5	0
Sum of polycyclic aromatic hydrocarbons	mg/kg	9	<0.5	2.3	0
Benzo(a)pyrene TEQ (half LOR)	mg/kg	9	0.6	0.6	0
C6 C10 Fraction minus BTEX (F1)	mg/kg	6	<10	<10	0

Table 5.2: Chemical Concentrations in waste materials and underlying soils					
Analyte	Units	Number of Samples Analysed	Min	Max	No. above GL
>C16 C34 Fraction	mg/kg	6	<100	<100	0
>C34 C40 Fraction	mg/kg	6	<100	<100	0
>C10 C16 Fraction minus Naphthalene (F2)	mg/kg	6	<50	<50	0
Benzene	mg/kg	6	<0.2	<0.2	0
Toluene	mg/kg	6	<0.5	<0.5	0
Ethylbenzene	mg/kg	6	<0.5	<0.5	0
Total Xylenes	mg/kg	6	<0.5	<0.5	0
Sum of BTEX	mg/kg	6	<0.2	<0.2	N/A
Naphthalene	mg/kg	6	<1	<1	0
Volatile Organic Compounds	mg/kg	0			N/A

A summary of the initial waste classification of soil are provided in **Table 5.3** below. A full list of waste classification results are provided in **Table 5** in **Appendix G**.

Table 5.3: Summary of Waste Classification Results

Chemical	SCC1 General solid waste mg/kg	SCC2 Restricted solid waste mg/kg	TCLP1[1] Solid waste mg/L	TCLP2[2] Restricted Solid Waste mg/L	Chemical Control Order	Maximum SCC Value (mg/kg)	Maximum leachate concentration (mg/L)
Asbestos	--	--	--	--	--	Present	--
pH (pH units)	--	--	--	--	--	11.4	--
Electrical Conductivity (µS/cm)	--	--	--	--	--	7,900	--
Aluminium	--	--	--	--	--	--	--
Fluoride (soluble)	10,000	40,000	150	600	150	21,000	909
Total Cyanide	5,900	23,600	16	64	10	734	8.54
Mercury	50	200	0.2	0.8	--	<0.1	--
Calcium (Excangeable)	--	--	--	--	--	22.8*	
Potassium	--	--	--	--	--	1,600	--
Sodium	--	--	--	--	--	40,000	--
Magnesium (Exchangeable)	--	--	--	--	--	0.4*	--
Total Alkalinity as $CaCO_3$	--	--	--	--	--	7,420	--
Bicarbonate Alkalinity as $CaCO_3$	--	--	--	--	--	5,320	--
Carbonate Alkalinity as $CaCO_3$	--	--	--	--	--	5,510	--
Sulfate as $S0_4$2-	--	--	--	--	--	2,480	--
Chloride	--	--	--	--	--	1,180	--
TPH C6-C9	650	2600	N/A	N/A	--	<10	--
TPH C10-36	10,000	40,000	N/A	N/A	--	510	--
Benzene	18	72	0.5	2	--	<0.2	--
Toluene	518	2073	14.4	57.6	--	<0.5	--
Ethyl benzene	1080	4320	30	120	--	<0.5	--
Xylene	1800	7200	50	200	--	<0.5	--
Benzo(a)pyrene	10	23	0.04	0.16	--	832	0.0007
Total PAHs	200	800	N/A	N/A	--	6,320	0.522
PCBs	<50	<50	--	--	--	0.1	--

5.3 Groundwater

A summary of the groundwater results from the assessment are provided in **Table 5.4** below. Results summary tables for groundwater are provided in **Table 2** in **Appendix G**, and the laboratory reports are provided in **Appendix F**.

Table 5.4: Summary of Groundwater Results

Location	Date	Total Cyanide µg/L	Soluble Fluoride mg/L	TPH C6 - C36 µg/L	Naphthalene µg/L	Fluoranthrene µg/L
95 % Protection for Aquatic Ecosystems		-	-	LOR	16	1
Recreational Use		-	1.5	-	-	-
Irrigation (long-term trigger value		-	1.0	LOR	-	-
MW202	11/11/15	7.81	1,880	350	1.4	<1.0
MW203	11/11/15	-	2.0	-	-	-
MW204	11/11/15	227	1,380	-	-	-
MW206	11/11/15	223	1,720	2,010	38.8	8.8

LOR – limit of reporting

6. DISCUSSION

6.1 Stratigraphy and Hydrogeology

Field work undertaken for the waste stockpile characterisation found topsoil to extend to approximately 0.5m, overlying up to 1.1m of capping clays. Clays were underlain by gravels comprising the gas collection layer. Topsoil, clays and gravels were not observed to contain waste materials.

Drilling was progressed through the waste using sonic drill methods and was found to refuse in many locations. Voids were present within the waste and gas emission coincident with the occurrence of voids was evident. Well purging was found successful in most instances to remove gas concentrations however on one occasion the bore hole required venting overnight to allow gas to mitigate prior to further progression.

The depth of fill within the boreholes drilled within the Capped Waste Stockpile was approximately 12 mbgs, with the exception of MW201 where fill was encountered up to approximately 10.5 mbgs. Undisturbed core samples were retrieved from the bore holes for inspection, including review by Hydro personnel experienced in site waste types. Wastes were predominantly black in colour and differentiation of material types was difficult. Generally, wastes encountered comprised of a varied mixture of solid carbon, spent pot lining, refractory bricks, bath (cryolite), steel, and other various waste materials.

Fill materials encountered throughout the six borehole were generally dry, with water present at the base of the wastes. Water was encountered within only four of the six groundwater monitoring wells. Groundwater was limited within the stockpile and in most cases was present just above the waste and natural surface interface. Clay was found to underlie the waste through the central and western portion. A shallow lens of sand was found beneath the eastern portion of the site, and found to extend to depths of >18 mbgs at the central eastern well MW206.

6.2 Evaluation of Stockpile Settlement

A landform survey of the capped waste stockpile was completed during surveying of the wells for comparison to the 1996 survey. Comparison with the 1996 survey found settlement has occurred, as outlined in **Table 6.1**. Settlement is most noticeable on the southern side of the capped waste stockpile, with the toe of the southern bank settling 0.9m over 19 years compared to settlement of between 0.5m and 0.67m on the western, northern and eastern sides. Gas vent 6, located on the southern side of the top of the stockpile, settled 1.72m, the largest settlement on the top of the stockpile by approximately 0.7m. The 1996 survey and the 2015 survey are included in **Appendix H**.

Table 6.1: Comparison of 1996 Survey to 2015 Survey			
Location	**1996 Survey (mAHD)**	**2015 Survey (mAHD)**	**Difference (m)**
Access Gate, western side	15.45	14.78	0.67
Toe of bank, northern side	15.59	15.10	0.49
Toe of bank, eastern side	15.96	15.40	0.56
Toe of bank, southern side	15.76	14.88	0.90
Gas Vent 1*	26.08	25.18	0.90
Gas Vent 2*	26.33	25.50	0.83
Gas Vent 3*	25.94	24.89	1.05
Gas Vent 4*	26.15	25.28	0.87
Gas Vent 5*	26.45	25.60	0.85
Gas Vent 6*	26.13	24.41	1.72
Gas Vent 7*	26.18	25.19	0.99
Gas Vent 8*	26.14	25.23	0.91
Gas Vent 9*	25.68	24.74	0.94
Gas Vent 10*	25.53	24.58	1.05
Gas Vent 11*	25.15	24.25	0.90
Gas vent 12*	24.77	23.90	0.87

* Natural Surface

6.3 Volume of waste soils

Based on survey information and the depth of wastes the estimate of volume is calculated to be between 95000 and 115000 cum. The estimated volume of underlying impacted soils is approximately 25000 cum.

6.4 Analysis of Wastes and Soils

Soil analytical results were compared to site adopted human health and ecological criteria. This comparison found the following chemicals of concern to be above the human health criteria:

- Asbestos in soil samples from MW201, MW202 and MW203. Amosite was detected in these three locations at depths ranging between 6 and 9 mbgs. Chrysotile was detected in MW203 at 7 mbgs;
- Soluble fluoride in soil samples from MW202 at a depth of 2 mbgs and in MW203 and MW204 at a depth of 9 mbgs;
- Benzo(a)pyrene TEQ in soil samples from MW201 at 3 mbgs, MW205 and MW206 at 11 mbgs and MW206 at 12 mbgs;
- Total PAHs in soil samples from MW205 and MW206 at a depth of 11 mbgs.

The following chemicals of concern were above the ecological criteria:

- Benzo(a)pyrene in soil samples from MW201 at 3 mbgs and MW205 and MW206 at 11 mbgs.
- Petroleum hydrocarbon fraction >C16-C34 in MW206 at 12m BGL.

Chemicals of concern, including total cyanide, aluminium, mercury, light fraction petroleum hydrocarbons (C6-C9) and BTEX, were not detected at concentrations exceeding the site criteria.

Table 5.2 includes a comparison of the total and leachable cyanide and fluoride concentrations to the site criteria and the allowable concentrations in the Chemical Control Order. This comparison shows that leachable cyanide concentrations do not exceed the allowable concentration in the Chemical Control Order. The maximum soluble fluoride concentration of 21,100mg/kg marginally exceeds the site criteria of 17,000mg/kg. The maximum leachable

fluoride concentration of 909mg/L was approximately six times the allowable concentration of 150mg/L in the Chemical Control Order.

A volatile organic compound (VOC) and semi-volatile organic compound (sVOC) screen was undertaken on six soil samples from within the waste materials. All results were below the LOR, with the exception of Dibenzofuran in MW205-11.3 (7.5 mg/kg) and MW206-11.0 (44.4 mg/kg) and Carbazole in MW204-2.5 (1.1mg/kg), MW205-11.3 (46.7 mg/kg) and MW206-11.0 (50.5 mg/kg).

Natural underlying soils from each of the six boreholes were analysed for a range of chemicals of concern. Analysis of natural underlying soils found PAHs from the waste materials have impacted the underlying sands and clays immediately below the base of the waste materials. At borehole MW206, the natural sands at the interface with the waste materials (12 mbgs) have a concentration of total PAHs that exceeds the human health criteria. PAH concentrations from the soil sample at 13m BGL were less than the laboratory detection limit, indicating that the leaching of PAHs from the waste materials into underlying natural soils is limited to less than 1m in depth.

6.5 Analysis of Groundwater

Analysis of groundwater identified the following:

- Fluoride concentrations exceeded all groundwater use criteria in the wells analysed;
- Aluminium concentrations exceeded ANZECC (2000) protection of 95% of aquatic ecosystems criteria in the wells analysed;
- Naphthalene, phenanthrene and fluoranthene in well MW206 exceeding ANZECC (2000) protection of 95% of aquatic ecosystems criteria;
- Petroleum hydrocarbons (C6-C36 fraction) exceeded groundwater use criteria for irrigation (long term trigger value), stock watering and ANZECC (2000) protection of 95% of aquatic ecosystems criteria in the wells analysed;
- Benzene in well MW202 was detected at a concentration exceeding the recreational use guideline however was well below the adopted guideline for vapour intrusion;
- Free cyanide concentrations did not exceed the site use criteria in any of the wells sampled.

6.6 Preliminary Waste Classification

Materials within the stockpile are intended to remain capped and are considered waste disposal under the Protection of the Operations Act 1979. In accordance with the NSW Waste Classification Guidelines, waste classification was undertaken. Following the classification hierarchy, material within the capped waste stockpile was considered to be Hazardous Special Wastes on the basis of elevated concentrations of leachable fluoride, benzo(a)pyrene and total PAHs and the presence of asbestos fibres.

The leachable concentrations of fluoride exceed the leachable fluoride guidelines provided in the Chemical Control Order in relation to Aluminium Smelter Wastes Containing Fluoride and/or Cyanide.

7. CONCLUSION

The assessment involved an intrusive site investigation which targeted the capped waste stockpile. The intrusive works were completed between 26th October and the 5th November 2015. The intrusive works comprised the drilling of six soil bores to a maximum depth of 18.0 mbgs, and the conversion of all six locations to permanent groundwater monitoring wells for the purpose of groundwater measurement and sampling. Groundwater monitoring wells were sampled on 11th November 2015.

The scope of the investigation was limited when considering the volume of waste contained however, the findings of the investigation are consistent with historical knowledge of the waste materials and groundwater behaviour and composition. On this basis the investigation further corroborates site knowledge and increases certainty regarding the stockpile contents.

Analysis of soil samples identified concentrations of soluble fluoride, asbestos and PAHs above the adopted site criteria. Elevated concentrations of TRH, Benzene, Cyanide, Anilines and Benzidines, Sodium, Chloride and Potassium were also identified throughout the fill materials.

The groundwater results indicate concentrations of Fluoride, Aluminium, Naphthalene, Phenanthrene, Fluoranthene, and TPH C6-C36 above the relevant site criteria.

The following key findings have been made during the assessment:

- The depth of the fill material in the six boreholes ranged between approximately 10.5 and 12 mbgs;
- The natural soils underlying the wastes generally comprised a mixture of Clays and Sands. Clays encountered during the works were considered to be firm to very stiff. A band of coarse grained sands (>5.4 m in thickness) was identified in MW206. This sand was identified to contain leachate impacted groundwater. A band of coarse grained sand (0.5 m in thickness) was also identified at location MW206;
- Elevated gas concentrations of Carbon Monoxide, Ammonia, and Methane were detected within the capped waste stockpile. Oxygen deficient concentrations as low as 3.2 % were also detected. Health and safety considerations for the identified gas are recommended for any work intrusive works;
- The fill material encountered during the drilling works was generally dry, indicating that the current stockpile cap is effective at reducing infiltration through the wastes. Leachate impacted groundwater was encountered within the underlying natural soils in four of the six groundwater monitoring wells installed;
- Soil sampling found asbestos fibres in three of the six boreholes. It is recommended that health and safety considerations for asbestos is made prior to any disturbance of the fill material within the stockpile, as well as transporting, and/or crushing the material;
- Chemical analysis of the waste materials for contaminants of concern classified the materials as ‘Hazardous’ and ‘Special’ waste on the basis of elevated total and leachable fluorides, total PAHs and asbestos fibre content; and
- Impacts to underlying natural soils are limited to shallow PAH impacts extending to less than 1.0m in to underlying soils.

8. LIMITATIONS

Ramboll Environ Australia Pty Ltd (Ramboll Environ) prepared this report in accordance with the scope of work as outlined in our proposal to Hydro Aluminium Kurri Kurri Pty Ltd dated 11th September 2016 and in accordance with our understanding and interpretation of current regulatory standards.

A representative program of sampling and laboratory analyses was undertaken as part of this investigation, based on past and present known uses of the site. While every care has been taken, concentrations of contaminants measured may not be representative of conditions between the locations sampled and investigated. We cannot therefore preclude the presence of materials that may be hazardous. Site conditions may change over time. This report is based on conditions encountered at the site at the time of the report and Ramboll Environ disclaims responsibility for any changes that may have occurred after this time.

The conclusions presented in this report represent Ramboll Environ's professional judgment based on information made available during the course of this assignment and are true and correct to the best of Ramboll Environ's knowledge as at the date of the assessment.

Ramboll Environ did not independently verify all of the written or oral information provided to ENVIRON during the course of this investigation. While Ramboll Environ has no reason to doubt the accuracy of the information provided to it, the report is complete and accurate only to the extent that the information provided to Ramboll Environ was itself complete and accurate.

This report does not purport to give legal advice. This advice can only be given by qualified legal advisors.

8.1 User Reliance

This report has been prepared exclusively for Hydro Aluminium Kurri Kurri Pty Ltd and may not be relied upon by any other person or entity without Ramboll Environ's express written permission.

APPENDIX A

FIGURES



Hydro: Capped Waste Stockpile Assessment | Site Location

RAMBOLL ENVIRON JOB NO: AS130456 DATE: March 2016 FIGURE 1



Hydro: Capped Waste Stockpile Assessment

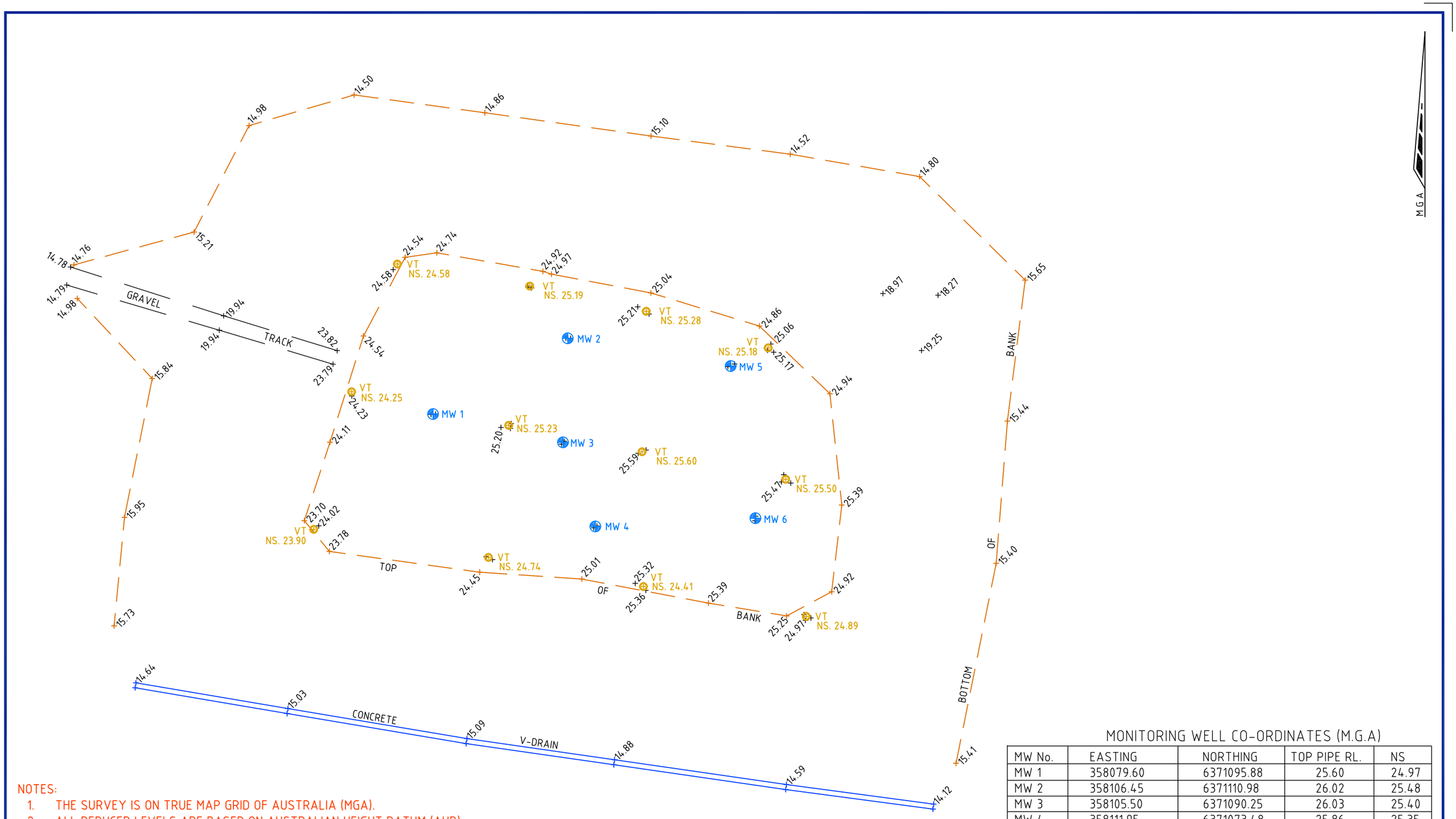
Groundwater Well Assessment

RAMBOLL ENVIRON

JOB NO: AS130456

DATE: March 2016

FIGURE 2



NOTES:

1. THE SURVEY IS ON TRUE MAP GRID OF AUSTRALIA (MGA).
2. ALL REDUCED LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD).
3. ORIGIN OF LEVELS FROM P.M.37964 R.L.19.455.
4. ALL MONITORING WELLS REDUCED LEVELS HAVE BEEN TAKEN FROM THE TOP OF THE PVC PIPE.

DIAL BEFORE YOU DIG
www.1100.com.au

LEGEND

– – – – –	TOP & TOE OF BANKS
VT	VENT
MW	MONITORING WELL
NS	NATURAL SURFACE

MONITORING WELL CO-ORDINATES (M.G.A)

MW No.	EASTING	NORTHING	TOP PIPE RL.	NS
MW 1	358079.60	6371095.88	25.60	24.97
MW 2	358106.45	6371110.98	26.02	25.48
MW 3	358105.50	6371090.25	26.03	25.40
MW 4	358111.95	6371073.48	25.86	25.35
MW 5	358138.92	6371105.46	26.27	25.55
MW 6	358143.85	6371075.13	26.07	25.42

Bar Scale 1: 750 (A3)

0 10 20 30 40 50

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TITLE

PLAN SHOWING

LOCATION OF MONITORING WELLS AND LEVELS

Ed.	Date	Amendment
H		
G		
F		
E		
D		
C		
B		
A	22.02.2016	INITIAL ISSUE

JOB ADDRESS: HYDRO ELECTRICITY SMELTER, KURRI KURRI
CLIENT: RAMBOLL ENVIRON
PLAN No 001
JOB REF: 6455
SCALE: 1:750 (A3)
SURVEY DATE: 17.02.2016
PLAN DATE: 19.02.2016
DATUM: AHD
CAD REF: 6455-DE-160217.mjo
ORIGIN OF LEVELS P.M.37964 RL.19.455 (AHD)
DRAWN JG
SURVEYOR CM
CHECKED CM / WS
APPROVED WS
SHEET No 1/1
DRAWING REF: 6455-DET-19.02.2016.DWG

APPENDIX B

BORELOGS

RAMBOLL ENVIRON

BOREHOLE NUMBER MW201

CLIENT Hydro Aluminium Kurri Kurri **PROJECT NAME** Groundwater Well Installation

PROJECT NUMBER AS130456 **PROJECT LOCATION** Capped Waste Stockpile

DATE STARTED 26/10/15 **COMPLETED** 26/10/15 **R.L. SURFACE** --- **DATUM** ---

DRILLING CONTRACTOR Terratest **SLOPE** 90° **BEARING** ---

EQUIPMENT Sonic **HOLE LOCATION** ---

HOLE SIZE --- **LOGGED BY** MT **CHECKED BY** ---

NOTES ---

Method	Water	Well Details	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
Sonic				0			TOPSOIL; SAND; brown, moist, fine to medium grained		
							CLAY; red and grey mottled, dry, medium plasticity		
				2			GRAVEL; grey, medium grained (gas buffer layer)		
							FILL; carbon and SPL ~85%, Bath ~5%, other (steel and clay) ~10%, dry	MW201 - 3.0m	CO 30ppm, O2 20.1%, LEL 0%, NH3 0ppm
				4					
				6				MW201 - 6.0m	CO OR (>1500ppm), O2 16%, LEL 16%. NH3 208ppm
				8					
				10				MW201 - 9.0m	CO OR (>1500ppm), O2 3.2%, LEL 69%, NH3 OR (>500ppm)
							Sandy CLAY; moist, light and dark brown mottled, medium plasticity, residual		
				12				MW201 - 11.5m	
				14				MW201 - 14m	
							Borehole MW201 terminated at 14m		
				16					
				18					

RAMBOLL ENVIRON

BOREHOLE NUMBER MW202

CLIENT Hydro Aluminium Kurri Kurri
PROJECT NAME Groundwater Well Installation
PROJECT NUMBER AS130456
PROJECT LOCATION Capped Waste Stockpile

DATE STARTED 4/11/15 **COMPLETED** 4/11/15 **R.L. SURFACE** **DATUM**
DRILLING CONTRACTOR Terratest **SLOPE** 90° **BEARING** ---
EQUIPMENT Sonic **HOLE LOCATION**
HOLE SIZE **LOGGED BY** MT **CHECKED BY**
NOTES

Method	Water	Well Details	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
Sonic							TOPSOIL; SAND; light brown, moist, fine grained		
							CLAY; brown/red mottled, medium plasticity, moist		
				2			GAS BUFFER LAYER CARBON AND SPL (~85%), Bath ~5%, other (steel and clay) ~10%	MW202 - 2.0m	
				4					CO 925ppm, O2 5.1%, LEL 53%, NH3 0ppm
				6				MW202 - 6.5m	CO 300ppm, O2 17.0%, LEL 0%, NH3 0ppm
				8					
				10				MW202 - 9.8m	CO 215ppm, O2 16%, LEL 0%, NH3 0ppm
	▼			12			CLAY; grey, medium plasticity, stiff, moist, residual	MW202 - 12.0m	C0 250ppm, O2 15.2%, LEL 0%, NH3 0ppm
				14			Clayey SAND; light grey/light brown mottled, fine to medium grained, wet, residual	MW202 - 13.5m	CO 120ppm, O2 12%, LEL 0%, NH3 0ppm
				16			CLAY; light brown with grey and orange mottling, medium plasticity, stiff, moist, residual		
				18			Borehole MW202 terminated at 18m		

BOREHOLE NUMBER MW203

RAMBOLL ENVIRON

CLIENT Hydro Aluminium Kurri Kurri **PROJECT NAME** Groundwater Well Installation

PROJECT NUMBER AS130456 **PROJECT LOCATION** Capped Waste Stockpile

DATE STARTED 28/10/15 **COMPLETED** 28/10/15 **R.L. SURFACE** --- **DATUM** ---

DRILLING CONTRACTOR Terratest **SLOPE** 90° **BEARING** ---

EQUIPMENT Sonic **HOLE LOCATION** ---

HOLE SIZE --- **LOGGED BY** MT **CHECKED BY** ---

NOTES ---

Method	Water	Well Details	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
Sonic							Clayey SAND; brown, moist, fine to medium grained		
							CLAY; brown, orange and grey mottled, dry, stiff, medium plasticity		
				2			GRAVEL; black, fine grained, (gas buffer layer)		
							FILL; Carbon and SPL ~85%, Bath ~5%, Other (steel and clay) ~10%, dry	MW203 - 2.5m	CO 40ppm, O2 20.1%, LEL 0%, H2S 0ppm
				4					
				6					CO 350ppm, O2 18%, LEL 30%, NH3 0, H2S 0ppm
								MW203 - 7.0m	
				8					
								MW203 - 9.0m	CO 350ppm, O2 15%, LEL 23%, NH3 0ppm
				10					
				12			Sandy CLAY; dark grey, moist, low plasticity, tree roots present, residual	MW203 - 12.5m	CO 300ppm, O2 16%, LEL 25%, NH3 0ppm
	▼						SANDY CLAY; light brown, moist, medium plasticity, becoming stiff, residual		
				14				MW203 - 14.5m	
							Borehole MW203 terminated at 15m		CO 125ppm, O2 19%, LEL 3%, NH3 0ppm
				16					
				18					

RAMBOLL ENVIRON

BOREHOLE NUMBER MW204

CLIENT Hydro Aluminium Kurri Kurri **PROJECT NAME** Groundwater Well Installation

PROJECT NUMBER AS130456 **PROJECT LOCATION** Capped Waste Stockpile

DATE STARTED 11/11/15 **COMPLETED** 11/11/15 **R.L. SURFACE** **DATUM**

DRILLING CONTRACTOR Terratest **SLOPE** 90° **BEARING** ---

EQUIPMENT Sonic **HOLE LOCATION**

HOLE SIZE **LOGGED BY** MT **CHECKED BY**

NOTES

Method	Water	Well Details	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
Sonic							TOPSOIL; SAND, brown, moist, fine grained		
							CLAY; brown and orange/red mottled, moist, medium plasticity, stiff		
				2			GRAVEL, light grey, fine grained (<8mm), gas buffer layer		
							FILL; Carbon and SPL ~85%, Bath ~5%, Other (steel and clay) ~10%, dry	MW204 - 2.5m	CO OR (>1500ppm), O2 2.0%, LEL 70%, NH3 0R (>500ppm)
				4				MW204 - 4.0m	
				6				MW204 - 6.0m	CO 125ppm, O2 20.1%, LEL 3%, NH3 0ppm
				8					
				10				MW204 - 9.0m	CO 625ppm, O2 5.2%, LEL 4%, NH3 OR (>500ppm)
				12			Sandy CLAY; brown/grey mottled, dry, low-medium plasticity, stiff (tree roots present), residual	MW 204 - 12.2m	CO 867ppm, O2 4.6%, LEL 3%, NH3 OR (>500ppm)
	▼						Clayey SAND; light brown/grey mottled, wet, fine to medium grained, residual		
				14			Sandy CLAY; light brown/grey mottled, moist, medium plasticity, stiff, residual	MW204 - 14.0m	
							Clayey SAND; light brown/grey mottled, moist, fine-medium grained, residual		
				16			Sandy CLAY; light brown/grey mottled, moist, medium plasticity, stiff, residual		
				18					
							Borehole MW204 terminated at 18m		

RAMBOLL ENVIRON

BOREHOLE NUMBER MW205

CLIENT Hydro Aluminium Kurri Kurri **PROJECT NAME** Groundwater Well Installation

PROJECT NUMBER AS130456 **PROJECT LOCATION** Capped Waste Stockpile

DATE STARTED 29/10/15 **COMPLETED** 30/10/15 **R.L. SURFACE** --- **DATUM** ---

DRILLING CONTRACTOR Terratest **SLOPE** 90° **BEARING** ---

EQUIPMENT Sonic **HOLE LOCATION** ---

HOLE SIZE --- **LOGGED BY** MT **CHECKED BY** ---

NOTES ---

Method	Water	Well Details	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
Sonic							TOPSOIL; Clayey SAND; brown, dry, fine grained		
							CLAY; brown and red mottled, moist, low plasticity with gravel		
				2			GRAVEL; dark grey, fine to medium grained, gas buffer layer		
							FILL; Carbon and SPL, ~85% bath ~10%, 2nd cut SPL (refractory brick), other (steel, clay) ~5%, dry		CO 1436ppm, O2 7%, LEL 36%, H2S 1.0ppm
				4					
								MW205 - 5.5m	
				6					CO 62ppm, O2 16.1%, LEL 4%, H2S 1.0ppm
				8					
								MW205 - 9.0m	CO 55ppm, O2 18.1%, LEL 3%, H2S 0ppm
				10					
								MW205 - 11.3m	
				12			SAND; grey, fine to medium grained, wet, pieces of tree roots and organic matter present, residual	MW205 - 12.2m	CO 45ppm, O2 18%, LEL 2%, H2S 0ppm
							Sandy CLAY; light brown, stiff, dry, residual		
				14				MW205 - 14.5m	CO 35ppm, O2 18%, LEL 1%, H2S 1ppm
							Borehole MW205 terminated at 15m		
				16					
				18					

RAMBOLL ENVIRON

BOREHOLE NUMBER MW206

CLIENT Hydro Aluminium Kurri Kurri
PROJECT NAME Groundwater Well Installation
PROJECT NUMBER AS130456
PROJECT LOCATION Capped Waste Stockpile

DATE STARTED 3/11/15 **COMPLETED** 3/11/15 **R.L. SURFACE** **DATUM**
DRILLING CONTRACTOR Terratest **SLOPE** 90° **BEARING** ---
EQUIPMENT Sonic **HOLE LOCATION**
HOLE SIZE **LOGGED BY** MT **CHECKED BY**
NOTES

Method	Water	Well Details	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
Sonic							TOPSOIL; SAND; brown, fine grained, dry		
							Silty CLAY; ligth brown/red mottled, high plasticity		
				2			GRAVEL; dark grey, fine to medium grained, gas buffer layer		
							FILL; Carbon/SPL ~85%, Bath ~5%, other (steel and clay) ~10% Predominantly black carbon and carbon dust. Small sections of white (bath), small sections of red brick (SPL 2nd cut), very hard, dry	MW206 - 3.0m	CO 505ppm, O2 20.1%, LEL 27%, NH3 OR (>500ppm)
				4					
				6					CO 216ppm, O2 18.9%, LEL 4%, NH3 35ppm
								MW206 - 7.0m	
				8					
									CO 57ppm, O2 17%, LEL 3%, NH3 0ppm
				10					
								MW206 - 11.0m	
				12			Becoming wet	MW206 - 12.0m	CO 47ppm, O2 17.2%, LEL 4%, NH3 0ppm
	▼						SAND; light grey with black mottling, fine grained, residual		
							SAND; light brown/grey, fine to medium grained, tree roots present, residual	MW206 - 13.0m	
							Becoming clayey	MW206 - 13.5m	
				14			Coarse grained at 13.8m Fine-medium grained at 13.9m		
								MW206 - 15.0m	CO 52ppm, O2 18.2%, LEL 5%, NH3 0ppm
				16					
							SAND; dark grey, wet, coarse grained, residual		
				18					
							Borehole MW206 terminated at 18m		

BOREHOLE / TEST PIT AS130456 CAPPED WASTE STOCKPILE.GPJ GINT STD AUSTRALIA.GDT 1/3/16

APPENDIX C

PHOTOGRAPHS



Photo 1: Sandy CLAY encountered beneath capped waste at borehole location MW201



Photo 2: CLAY encountered beneath capped waste at borehole location MW202



Photo 3: Steel encountered at borehole location MW202.



Photo 4: Bath and waste material encountered at location MW203.



Photo 5: Sandy CLAY encountered beneath capped waste at borehole location MW203



Photo 6: Waste material encounted from approximately 11.5 to 12.0 mbgs. Waste at approximately 11.8 mbgs was noted to be wet.



Photo 7: SAND encountered beneath capped waste at borehole location MW206



Photo 8: Leachate encountered at location MW206



Photo 9: Leachate encountered at location MW203

APPENDIX D

FIELD SHEETS

Groundwater Sampling Field Parameter Form

Ref. Number: AS130456	**Date:** 11/11/15
Project: CWS Gw monitoring well installation.	**Well Number:** MW201.
Location: ~~Moree~~ CWS	**Sampler(s):** MT

Field Measurements

Organic vapours in well:	– ppm	Measurement Device: PID / LEL
Depth to Groundwater:	– m	Measurement Device: Interface probe
Correction:	– m	
Groundwater Elevation :	– m	
Depth to Immiscible Layer:	– m	Measurement Device: IP.
Thickness to Immiscible Layer:	– m	
Well Depth:	~ 11.1 m	
Thickness to Groundwater Column:	– m	
Well Diameter: DRY	mm	

Well Purging

Volume to be purged = (TD-WL)/SWL x 1.9625 x # volumes to be purged.

Volume in 50mm dia well is approximately 2L per metre:

If purging: 3 volumes to be purged: SWL x 5.9 = L	If developing: 10 volumes to be purged: SWL x 19.6 = L
Water Level Depth: m	Purge Method: Bailer / Pump
# Well Volumes to be purged:	Well Volume to be purged: L

Observations during purging (turbidity, colour, sheen, odour):

Well Sampling

Method: ☐ Micro-Purge ☐ Peristaltic ☐ Bailer

Start Sampling: End Sampling:

Sample Appearance:

TIME	TEMP (°C)	SPEC. COND.	pH	DO	Redox	TDS	Comments (appearance, odour, etc)
			DRY.				

Miscellaneous Field Comments

Well Head Integrity: New

Samples Filtered

Weather Condition: Hot, sunny.

Other:

Groundwater Sampling Field Parameter Form

Ref. Number: CWS GW monitoring well installation	**Date:** 11/11/15.
Project: AS130456	**Well Number:** MPW202
Location: ~~MW202~~ CWS	**Sampler(s):** MT

Field Measurements			
Organic vapours in well:	–	ppm	Measurement Device: PID / LEL
Depth to Groundwater:	12.73	m	Measurement Device: Interface Probe.
Correction:	–	m	
Groundwater Elevation :	–	m	
Depth to Immiscible Layer:	–	m	Measurement Device: IP.
Thickness to Immiscible Layer:	–	m	
Well Depth:	15.96	m	
Thickness to Groundwater Column:	–	m	
Well Diameter:	–	mm	

Well Purging

Volume to be purged = (TD-WL)/SWL x 1.9625 x # volumes to be purged.

Volume in 50mm dia well is approximately 2L per metre:

If purging: 3 volumes to be purged: SWL x 5.9 = L	If developing: 10 volumes to be purged: SWL x 19.6 = L
Water Level Depth: m	Purge Method: Bailer / Pump
# Well Volumes to be purged:	Well Volume to be purged: L

Observations during purging (turbidity, colour, sheen, odour):

* Depth to water @ end of readings (13:30pm) - 15.05m.

Well Sampling

Method: ☐ Micro-Purge ☐ Peristaltic ☐ Bailer

Start Sampling: End Sampling:

Sample Appearance:

TIME	TEMP (°C)	SPEC. COND.	pH	DO	Redox	TDS	Comments (appearance, odour, etc)
13:26	23.2	30.6mS	9.11	0.94	-173	20.2	Brown - landfark
13:26	21.3	26.8mS	9.08	0.08	-274	17.6 ppm	" "
13:28	21.2	26.8mS	9.08	0.08	-276	17.1 ppm	" "

Miscellaneous Field Comments

Well Head Integrity:	Now
Samples Filtered	metals.
Weather Condition:	Hot, sunny.
Other:	GHD collected samples in addition to Ramboll Environ.

Groundwater Sampling Field Parameter Form

Ref. Number: AS130456	**Date:** 11/11/2015
Project: CWS GW monitoring installation.	**Well Number:** MW203
Location: ~~MW203~~ CWS.	**Sampler(s):** MT

Field Measurements			
Organic vapours in well:	–	ppm	Measurement Device: ~~Interface probe~~ PID/FEL
Depth to Groundwater:	13.84	m	Measurement Device: Interface probe.
Correction:	–	m	
Groundwater Elevation :	–	m	
Depth to Immiscible Layer:	–	m	Measurement Device: IP
Thickness to Immiscible Layer:	–	m	
Well Depth:	14.75.	m	
Thickness to Groundwater Column:	–	m	
Well Diameter:	50	mm	

Well Purging

Volume to be purged = (TD-WL)/SWL x 1.9625 x # volumes to be purged.

Volume in 50mm dia well is approximately 2L per metre:

If purging: 3 volumes to be purged: SWL x 5.9 = L	If developing: 10 volumes to be purged: SWL x 19.6 = L
Water Level Depth: m	Purge Method: Bailer / Pump
# Well Volumes to be purged:	Well Volume to be purged: L

Observations during purging (turbidity, colour, sheen, odour):

Well Sampling

Method: ☑ Micro-Purge ☐ Peristaltic ☐ Bailer

Start Sampling: 12:15 End Sampling: 13:00

Sample Appearance:

TIME	TEMP (°C)	SPEC. COND.	pH	DO	Redox	TDS	Comments (appearance, odour, etc)
12:05	22.5	17.51mS	9.15	0.52	-215	11.28ppt.	
12:08	22.1	17.50mS	9.16	0.36	-226	11.35ppt.	
12:10	21.9	17.50mS.	9.16	0.15	-244	11.39ppt.	Leachate – brown.
	Purged dry – approx 200mL collected in unpreserved bottle.						

Miscellaneous Field Comments

Well Head Integrity:	New
Samples Filtered	~~Yes~~ No.
Weather Condition:	Hot, Sunny.
Other:	

Groundwater Sampling Field Parameter Form

Ref. Number: AS130456	**Date:** 11/11/15
Project: CWS GW Monitoring Well Installation	**Well Number:** MW20d
Location: ~~MW20d~~ CWS	**Sampler(s):** MT

Field Measurements			
Organic vapours in well:	-	ppm	Measurement Device: PID / LEL
Depth to Groundwater:	13.00	m	Measurement Device: Interface Probe.
Correction:	-	m	
Groundwater Elevation :	-	m	
Depth to Immiscible Layer:	-	m	Measurement Device: IP.
Thickness to Immiscible Layer:	-	m	
Well Depth:	14.23	m	
Thickness to Groundwater Column:	-	m	
Well Diameter:	50	mm	

DRY @ 14:40

Well Purging

Volume to be purged = (TD-WL)/SWL x 1.9625 x # volumes to be purged.

Volume in 50mm dia well is approximately 2L per metre:

If purging: 3 volumes to be purged: SWL x 5.9 = L	If developing: 10 volumes to be purged: SWL x 19.6 = L
Water Level Depth: m	Purge Method: Bailer / Pump
# Well Volumes to be purged:	Well Volume to be purged: L

Observations during purging (turbidity, colour, sheen, odour):

Orlay 2 x Plastic unpreserved
1 x cyanide

Well Sampling

Method: ☑ Micro-Purge ☐ Peristaltic ☐ Bailer

Start Sampling: 14:40 End Sampling: 15:00

Sample Appearance: Leachate - brown.

TIME	TEMP (°C)	SPEC. COND.	pH	DO	Redox	TDS	Comments (appearance, odour, etc)
14:25	24.4	37.1mS	10.24	0.83	-96	24.0 ppt	Leachate - brown.
14:28	23.7	37.2mS	10.25	0.64	-101	24.2	" "
14:33	22.4	36.8mS	10.27	0.24	-143	23.9	" "
14:35	22.3	36.8mS	10.28	0.24	-147	23.9.	" "

Miscellaneous Field Comments

Well Head Integrity: New

Samples Filtered Metals.

Weather Condition: Hot, Sunny

Other:

Groundwater Sampling Field Parameter Form

Ref. Number: AS130456	**Date:** 11/12/15.
Project: CWS GW monitoring well installation.	**Well Number:** MW205
Location: CWS.	**Sampler(s):** MT

Field Measurements			
Organic vapours in well:	—	ppm	Measurement Device: PID / LEL
Depth to Groundwater:	13.10	m	Measurement Device: Interface probe.
Correction:	—	m	
Groundwater Elevation :	—	m	
Depth to Immiscible Layer:	—	m	Measurement Device: IP.
Thickness to Immiscible Layer:	—	m	
Well Depth:	13.28	m	
Thickness to Groundwater Column:	—	m	
Well Diameter:	50	mm	

Well Purging	
Volume to be purged = (TD-WL)/SWL x 1.9625 x # volumes to be purged.	
Volume in 50mm dia well is approximately 2L per metre:	
If purging: 3 volumes to be purged: SWL x 5.9 = L	If developing: 10 volumes to be purged: SWL x 19.6 = L
Water Level Depth: m	Purge Method: Bailer / Pump
# Well Volumes to be purged:	Well Volume to be purged: L
Observations during purging (turbidity, colour, sheen, odour):	

Well Sampling

Method: ☑ Micro-Purge ☐ Peristaltic ☐ Bailer

Start Sampling: Not Sampled | End Sampling:

Sample Appearance:

TIME	TEMP (°C)	SPEC. COND.	pH	DO	Redox	TDS	Comments (appearance, odour, etc)
			DRY.				

Miscellaneous Field Comments
Well Head Integrity:
Samples Filtered
Weather Condition:
Other:

Groundwater Sampling Field Parameter Form

Ref. Number: AS80456	**Date:** 11/11/15
Project: CWS GW monitoring well installation	**Well Number:** MW206.
Location: CWS	**Sampler(s):** MT

Field Measurements

Organic vapours in well:	120	ppm	Measurement Device: ~~Interface probe~~ LEL/PID.
Depth to Groundwater:	13.10	m	Measurement Device: Interface probe
Correction:	-	m	
Groundwater Elevation :	-	m	
Depth to Immiscible Layer:	-	m	Measurement Device: PID.
Thickness to Immiscible Layer:	-	m	
Well Depth:	15.5	m	
Thickness to Groundwater Column:	-	m	
Well Diameter:	50	mm	

Drawdown - 10:44am - 13.19m to water. 11:17am 13.27m.

Well Purging

Volume to be purged = (TD-WL)/SWL x 1.9625 x # volumes to be purged.

Volume in 50mm dia well is approximately 2L per metre:

If purging: 3 volumes to be purged: SWL x 5.9 = L	If developing: 10 volumes to be purged: SWL x 19.6 = L
Water Level Depth: m	Purge Method: Bailer / Pump
# Well Volumes to be purged:	Well Volume to be purged: L

Observations during purging (turbidity, colour, sheen, odour):

Well Sampling

Method: ☑ Micro-Purge ☐ Peristaltic ☐ Bailer

Start Sampling: 10:25 End Sampling: 12:05

Sample Appearance:

TIME	TEMP (°C)	SPEC. COND.	pH	DO	Redox	TDS	Comments (appearance, odour, etc)
10:14	24.9	40.5 mS	10.70	0.24	-229	26.3ppk	Leachate - brown.
10:18	24.2	41.1 mS	10.68	0.11	-314	26.6	" "
10:24	23.4	42.6 mS	10.68	0.06	-363	27.8.	" "

Miscellaneous Field Comments

Well Head Integrity:	New.
Samples Filtered	Metals - filtered.
Weather Condition:	Hot, Sunny.
Other:	* Long sampling collection time - GHD present on-site.

APPENDIX E

CALIBRATION

Gas Calibration Certificate

airmet

Air-Met Scientific Pty Ltd
1300 137 067

Instrument MX6
Serial No. 1203HBW-015
Sensors O2, LEL, H2S, CO, CH4

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation					
	Filter					
	Flow					
	Valves, Diaphragm					
PCB	Condition	✓				
Connectors	Condition	✓				
			Low	**High**	**TWA**	**STEL**
Sensor	O2	✓	19.5%	23.5%	N/A	N/A
	LEL	✓	5% LEL	10% LEL	N/A	N/A
	H2S	✓	10ppm	20ppm	10ppm	15ppm
	CO	✓	30ppm	60ppm	90ppm	400ppm
	CH4	✓	1.00%	1.00%	N/A	N/A
Alarms	Beeper	✓				
	Settings	✓				
Software	Version					
Datalogger	Operation					
Download	Operation					
Other tests:						

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode Aspirated mode

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No	Instrument Reading
O2		Fresh Air			20.9%
LEL		50% LEL	NATA	SY74	50% LEL
H2S		25ppm H2S	NATA	SY74	25ppm H2S
CO		100pm CO	NATA	SY74	100pm CO
CH4 IR		60% CH4	NIST	SY87	60% CH4

Calibrated by: SB. **Sophie Boler**

Calibration date: **26-Oct-15**

Next calibration due: **23-Apr-16**

Gas Calibration Certificate

Instrument MX6
Serial No. 12041QS-004
Sensors O2, LEL, CO, NH3, NO2

airmet

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation					
	Filter					
	Flow					
	Valves, Diaphragm					
PCB	Condition	✓				
Connectors	Condition	✓				
			Low	**High**	**TWA**	**STEL**
Sensor	O2	✓	19.5%	23.5%	N/A	N/A
	LEL	✓	5% LEL	10% LEL	N/A	N/A
	CO	✓	90ppm	400ppm	30ppm	60ppm
	NH3	✓	75ppm	125ppm	25ppm	35ppm
	NO2	✓	9ppm	15ppm	3ppm	55ppm
Alarms	Beeper	✓				
	Settings	✓				
Software	Version					
Datalogger	Operation					
Download	Operation					
Other tests:						

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode Aspirated mode

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No	Instrument Reading
O_2		20.9% Vol		Fresh Air	20.9% Vol
LEL		50% LEL (Methane)	NIST	SY74	50% LEL
CO		100ppm CO	NIST	SY74	100ppm
NH3		25ppm NH3	NIST	SY70	23ppm
NO2		5ppm NO2	NIST	Lot#976936	4.8ppm

Calibrated by: **Joanna Wong**

Calibration date: **21/10/2015**

Next calibration due: **18/04/2016**

PID Calibration Certificate

Instrument PhoCheck Tiger
Serial No. T-105423

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
	Recharge OK?	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
Pump	Operation	✓	
	Filter	✓	
	Flow	✓	
	Valves, Diaphragm	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	PID	✓	10.6 ev
Alarms	Beeper	✓	Low: 50ppm; High: 100ppm; TWA: N/A; STEL: N/A
	Settings	✓	
Software	Version	✓	
Data logger	Operation	✓	
Download	Operation	✓	
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp	T6573	100ppm Isobutylene	NIST	SY64		100.2 ppm

Calibrated by: DJ Darren Jing

Calibration date: 27/10/2015

Next calibration due: 26/11/2015

PID Calibration Certificate

Instrument PhoCheck Tiger
Serial No. T-105892

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation	✓				
	Filter	✓				
	Flow	✓				
	Valves, Diaphragm	✓				
PCB	Condition	✓				
Connectors	Condition	✓				
Sensor	PID	✓	10.6 ev			
Alarms	Beeper	✓	**Low**	**High**	**TWA**	**STEL**
	Settings	✓	50ppm	100ppm		
Software	Version	✓				
Data logger	Operation	✓				
Download	Operation	✓				
Other tests:						

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp		100ppm Isobutylene	NIST	SY64		100.1ppm

Calibrated by: DJ **Darren Jing**

Calibration date: **20/10/2015**

Next calibration due: **19/11/2015**

APPENDIX F
LABORATORY REPORTS

J801, 802 MGT

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0690 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Clinton QLD 4680 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 9600 E: samples.melbourne@alsglobal.com

MUDGEE 1/23 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Court Cohn QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com

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

CLIENT: Ramboll Environ	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☑ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: CWS	PROJECT NO.: AS130456	ALS QUOTE NO.:	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:	PURCHASE ORDER NO.:	COUNTRY OF ORIGIN:	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Mark Tredeaux.	CONTACT PH:	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7 OF: 1 (2) 3 4 5 6 7	Other comment:
SAMPLER: Mark Tredeaux	SAMPLER MOBILE: 0410822410		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): kgreenfield@ramboll.com/			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2/12/15 14:00	DATE/TIME: 4/12/15 1100	DATE/TIME:	DATE/TIME: 07/12/15 11.05

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			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 (refer to codes below)	TOTAL BOTTLES	Soluable Fluoride	Cyanide	Sulfur	pH.	Cation Exchange	sVOC.	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	MW201_3.0	2/12/15	S		1	X	X	X	X	X	X	Subcon / Forward Lab / Split WO
2	MW201_6.0	"			1	X	X	X	X	X		Lab / Analysis: MGT / QA201
3	MW201_9.0				1	X	X	X	X	X		Organised By / Date:
4	MW202_2.0				1	X	X	X	X	X		Relinquished By / Date:
5	MW202_6.5				1	X	X	X	X	X	X	Connote / Courier:
6	MW202_9.8				1	X	X	X	X	X		WO No:
7	MW203_2.5				1	X	X	X	X	X		Attach By PO / Internal Sheet:
8	MW203_7.0				1	X	X	X	X	X		
9	MW203_9.0				1	X	X	X	X	X	X	
10	MW204_2.5				1	X	X	X	X	X	X	
11	MW204_6.0				1	X	X	X	X	X		
12	MW204_9.0				1	X	X	X	X	X		
				TOTAL	12	12	12	12	12	12		

Environmental Division
Sydney
Work Order Reference
ES1537731

Telephone : +61-2-8784 8555

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; 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; Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com

BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 45 Callemondah Drive Clinton QLD 4680 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 9600 E: samples.melbourne@alsglobal.com

MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 [illegible] E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com

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

CLIENT:	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE:	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact?	Yes / No / N/A
PROJECT: PROJECT NO.:	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: PURCHASE ORDER NO.:	COUNTRY OF ORIGIN:	COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: CONTACT PH:		OF: 1 (2) 3 4 5 6 7	Other comment:
SAMPLER: SAMPLER MOBILE:	RELINQUISHED BY:	RECEIVED BY: Frank MS	RELINQUISHED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):		DATE/TIME: 4/12/15 1160	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed):	DATE/TIME:		
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

RECEIVED BY:
Eleni N
DATE/TIME: 07/12/15 11:35

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			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 (refer to codes below)	TOTAL BOTTLES	Soluable Fluoride	Cyanide	Sodium	pH	Cation Exchange	sVOC			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	MW205_5.5	2/12/15	S		1	X	X	X	X	X				*482416
14	MW205_9.0				1	X	X	X	X	X				
15	MW205_11.3				1	X	X	X	X	X	X			
16	MW206_3.0				1	X	X	X	X	X				
17	MW206_7.0				1	X	X	X	X	X				
18	MW206_11.0				1	X	X	X	X	X	X			
19	QA102				1	X	X	X	X	X				
20	QA201				1	X	X	X	X	X				
21	QA202				1	X	X	X	X	X				
22	Refractory Composite				1	X	X	X	X	X				Forward to MGT.
				TOTAL	10	10	10	10	10	10				

Other 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; 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; Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

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ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Environ Sydney**
Contact name:	Mark Tiedeman
Project name:	CWS
Project ID:	AS130456
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Dec 7, 2015 11:05 AM
Eurofins | mgt reference:	**482416**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Charl Du Preez on Phone : +61 (2) 9900 8400 or by e.mail: charldupreez@eurofins.com.au

Results will be delivered electronically via e.mail to Mark Tiedeman - mtiedeman@environcorp.com.

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ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

Melbourne
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NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: Environ Sydney
Address: PO Box 560
North Sydney
NSW 2060

Project Name: CWS
Project ID: AS130456

Order No.:
Report #: 482416
Phone: 02 9954 8118
Fax: 02 9954 8150

Received: Dec 7, 2015 11:05 AM
Due: Dec 14, 2015
Priority: 5 Day
Contact Name: Mark Tiedeman

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Cyanide (total)	Fluoride (soluble)	pH (1:5 Aqueous extract)	Sodium	Moisture Set	Cation Exchange Capacity
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
QA201	Dec 02, 2015		Soil	S15-De06849	X	X	X	X	X	X

Certificate of Analysis

Environ Sydney
PO Box 560
North Sydney
NSW 2060

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Mark Tiedeman**

Report **482416-S**
Project name CWS
Project ID AS130456
Received Date Dec 07, 2015

Client Sample ID			**QA201**
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**S15-De06849**
Date Sampled			**Dec 02, 2015**
Test/Reference	LOR	Unit	
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	7900
Cyanide (total)	5	mg/kg	< 5
Fluoride (soluble)	20	mg/kg	110
pH (1:5 Aqueous extract)	0.1	pH Units	6.3
% Moisture	0.1	%	19
Alkali Metals			
Sodium	5	mg/kg	40000
Ion Exchange Properties			
Cation Exchange Capacity	0.05	meq/100g	70

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Conductivity (1:5 aqueous extract at 25°C)	Melbourne	Dec 09, 2015	7 Day
- Method: LTM-INO-4030			
Ion Exchange Properties	Melbourne	Dec 10, 2015	
Cyanide (total)	Melbourne	Dec 09, 2015	14 Day
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride (soluble)	Melbourne	Dec 14, 2015	28 Day
- Method: LM-LTM-INO-4300 (Fluoride by Ion Chromatography)			
pH (1:5 Aqueous extract)	Melbourne	Dec 09, 2015	7 Day
- Method: LTM-GEN-7090 pH in soil by ISE			
Alkali Metals	Melbourne	Dec 09, 2015	180 Day
- Method: USEPA 6010 Alkali Metals			
% Moisture	Melbourne	Dec 07, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

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ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

Melbourne
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NATA # 1261
Site # 1254 & 14271

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NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name:	Environ Sydney	**Order No.:**		**Received:**	Dec 7, 2015 11:05 AM
Address:	PO Box 560	**Report #:**	482416	**Due:**	Dec 14, 2015
	North Sydney	**Phone:**	02 9954 8118	**Priority:**	5 Day
	NSW 2060	**Fax:**	02 9954 8150	**Contact Name:**	Mark Tiedeman
Project Name:	CWS				
Project ID:	AS130456				

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					Cyanide (total)	Fluoride (soluble)	pH (1:5 Aqueous extract)	Sodium	Moisture Set	Cation Exchange Capacity
Laboratory where analysis is conducted										
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
External Laboratory										
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
QA201	Dec 02, 2015		Soil	S15-De06849	X	X	X	X	X	X

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

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

Units

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

QC Data General Comments

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

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Conductivity (1:5 aqueous extract at 25°C)			uS/cm	< 10			10	Pass	
Cyanide (total)			mg/kg	< 5			5	Pass	
Method Blank									
Ion Exchange Properties									
Cation Exchange Capacity			meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery									
Cyanide (total)			%	95			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
				Result 1					
Cyanide (total)	M15-De08343	NCP	%	83			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C)	M15-De06832	NCP	uS/cm	190	220	13	30%	Pass	
Cyanide (total)	M15-De08330	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
pH (1:5 Aqueous extract)	M15-De06832	NCP	pH Units	4.7	4.6	pass	30%	Pass	
% Moisture	M15-De06831	NCP	%	12	11	7.0	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Sodium	S15-De06849	CP	mg/kg	40000	35000	15	30%	Pass	

Comments

Sample Integrity

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

Authorised By

Charl Du Preez	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson
National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1535096**	Page	: 1 of 5
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR NEIL WOODBRIDGE	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: nrwoodbridge@environcorp.com	E-mail	:
Telephone	: +61 02 99548114	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 02-Nov-2015 13:55
C-O-C number	: ----	Date Analysis Commenced	: 03-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 10-Nov-2015 10:23
Site	: ----		
		No. of samples received	: 5
Quote number	: ----	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dian Dao		Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics

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.

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.

- ED037 (Alkalinity): Analysed on 1:5 leachate; LOR in mg/kg adjusted accordingly.
- 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.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW203_12.5	MW205_12.2	MW201_11.5	MW205_14.5	MW203_14.5
			Client sampling date / time	[29-Oct-2015]	[30-Oct-2015]	[27-Oct-2015]	[30-Oct-2015]	[29-Oct-2015]
Compound	CAS Number	LOR	Unit	ES1535096-001	ES1535096-002	ES1535096-003	ES1535096-004	ES1535096-005
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	10.5	10.3	9.7	9.2	10.0
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	2210	3490	1750	100	1080
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	16.9	13.4	20.1	11.6	18.7
ED037: Alkalinity								
Total Alkalinity as CaCO3	----	1	mg/kg	1320	1100	788	39	341
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/kg	726	420	394	39	131
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/kg	594	682	394	<5	210
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	2140	1890	380	100	460
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	10	mg/kg	660	130	550	40	780
ED093S: Soluble Major Cations								
Sodium	7440-23-5	10	mg/kg	3450	3880	2990	170	1860
Potassium	7440-09-7	10	mg/kg	770	20	1310	100	760
EG005T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	15100	3330	10400	4530	4460
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	532	58	734	<1	4
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	1700	830	490	200	90
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
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	2.6	<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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW203_12.5	MW205_12.2	MW201_11.5	MW205_14.5	MW203_14.5
				Client sampling date / time	[29-Oct-2015]	[30-Oct-2015]	[27-Oct-2015]	[30-Oct-2015]	[29-Oct-2015]
Compound	CAS Number	LOR	Unit		ES1535096-001	ES1535096-002	ES1535096-003	ES1535096-004	ES1535096-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluoranthene	206-44-0	0.5	mg/kg		6.6	1.6	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		6.4	1.6	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		2.8	1.3	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		2.8	1.4	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		3.3	2.0	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		0.9	0.8	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		2.8	1.8	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		1.7	0.9	<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		1.9	1.1	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		32.3	12.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		3.7	2.3	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		4.0	2.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		4.2	2.8	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW203_12.5	MW205_12.2	MW201_11.5	MW205_14.5	MW203_14.5
				Client sampling date / time	[29-Oct-2015]	[30-Oct-2015]	[27-Oct-2015]	[30-Oct-2015]	[29-Oct-2015]
Compound	CAS Number	LOR	Unit		ES1535096-001	ES1535096-002	ES1535096-003	ES1535096-004	ES1535096-005
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
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	1330-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		123	120	118	122	130
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		85.0	88.2	84.6	85.4	89.8
2-Chlorophenol-D4	93951-73-6	0.5	%		83.4	86.4	97.7	88.4	92.3
2.4.6-Tribromophenol	118-79-6	0.5	%		105	92.3	80.4	90.2	72.8
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		90.6	91.4	92.7	89.6	93.3
Anthracene-d10	1719-06-8	0.5	%		99.1	104	112	105	113
4-Terphenyl-d14	1718-51-0	0.5	%		81.7	82.9	87.7	96.2	89.1
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		95.2	104	112	111	110
Toluene-D8	2037-26-5	0.2	%		107	116	122	119	110
4-Bromofluorobenzene	460-00-4	0.2	%		96.2	101	107	105	128

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1535096**	Page	: 1 of 9
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR NEIL WOODBRIDGE	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: nrwoodbridge@environcorp.com	E-mail	:
Telephone	: +61 02 99548114	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 02-Nov-2015
C-O-C number	: ----	Date Analysis Commenced	: 03-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 10-Nov-2015
Site	: ----	No. of samples received	: 5
Quote number	: ----	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

NATA WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dian Dao		Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics

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 (Soils) (QC Lot: 264944)									
ES1535096-003	MW201_11.5	EA002: pH Value	----	0.1	pH Unit	9.7	9.7	0.00	0% - 20%
EA002 : pH (Soils) (QC Lot: 266096)									
ES1535092-031	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.6	8.5	0.00	0% - 20%
ES1535092-024	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.3	8.2	0.00	0% - 20%
EA002 : pH (Soils) (QC Lot: 267262)									
ES1535035-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	7.1	5.8	19.5	0% - 20%
ES1535091-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	3.6	3.6	0.00	0% - 20%
EA010: Conductivity (QC Lot: 264945)									
ES1535096-003	MW201_11.5	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	1750	2030	15.0	0% - 20%
EA010: Conductivity (QC Lot: 266095)									
ES1535092-031	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	711	610	15.3	0% - 20%
ES1535092-024	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	496	502	1.20	0% - 20%
EA010: Conductivity (QC Lot: 267263)									
ES1535035-001	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	104	99	5.03	0% - 20%
ES1535091-001	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	592	658	10.6	0% - 20%
EA055: Moisture Content (QC Lot: 264991)									
ES1535089-007	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	11.5	11.7	1.93	0% - 50%
ES1535100-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	8.4	7.1	16.2	No Limit
ED037: Alkalinity (QC Lot: 269509)									
ES1535096-001	MW203_12.5	ED037: Total Alkalinity as CaCO3	----	1	mg/kg	1320	1310	1.05	0% - 20%
ED040S: Soluble Major Anions (QC Lot: 267266)									
ES1535160-004	Anonymous	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	180	210	14.2	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 264947)									
ES1535096-003	MW201_11.5	ED045G: Chloride	16887-00-6	10	mg/kg	550	500	8.76	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 266098)									
ES1535092-031	Anonymous	ED045G: Chloride	16887-00-6	10	mg/kg	440	450	3.71	0% - 20%
ES1535092-024	Anonymous	ED045G: Chloride	16887-00-6	10	mg/kg	390	370	4.34	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 267267)									
ES1535160-004	Anonymous	ED045G: Chloride	16887-00-6	10	mg/kg	70	60	23.2	No Limit
ED093S: Soluble Major Cations (QC Lot: 266097)									
ES1535092-034	Anonymous	ED093S: Potassium	7440-09-7	10	mg/kg	<10	<10	0.00	No Limit
		ED093S: Sodium	7440-23-5	10	mg/kg	180	190	0.00	0% - 50%
ES1535092-024	Anonymous	ED093S: Potassium	7440-09-7	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 (%)*
ED093S: Soluble Major Cations (QC Lot: 266097) - continued									
ES1535092-024	Anonymous	ED093S: Sodium	7440-23-5	10	mg/kg	330	320	0.00	0% - 20%
ED093S: Soluble Major Cations (QC Lot: 267265)									
ES1535200-015	Anonymous	ED093S: Potassium	7440-09-7	10	mg/kg	<10	<10	0.00	No Limit
		ED093S: Sodium	7440-23-5	10	mg/kg	<10	<10	0.00	No Limit
ES1535200-011	Anonymous	ED093S: Potassium	7440-09-7	10	mg/kg	40	40	0.00	No Limit
		ED093S: Sodium	7440-23-5	10	mg/kg	140	140	0.00	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 265031)									
ES1535011-005	Anonymous	EG005T: Aluminium	7429-90-5	50	mg/kg	10800	11000	2.14	0% - 20%
ES1535103-001	Anonymous	EG005T: Aluminium	7429-90-5	50	mg/kg	9580	10500	9.49	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 265032)									
ES1535011-005	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.00	No Limit
ES1535103-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 265046)									
ES1535096-001	MW203_12.5	EK026SF: Total Cyanide	57-12-5	1	mg/kg	532	602	12.2	0% - 20%
EK040T: Fluoride Total (QC Lot: 268929)									
ES1535218-013	Anonymous	EK040T: Fluoride	16984-48-8	40	mg/kg	120	130	0.00	No Limit
ES1535096-005	MW203_14.5	EK040T: Fluoride	16984-48-8	40	mg/kg	90	90	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 269668)									
ES1535096-001	MW203_12.5	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 264794)									
ES1535096-001	MW203_12.5	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	0.5	mg/kg	0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.8	2.7	5.82	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.8	3.0	5.55	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	3.7	3.9	4.65	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	3.3	3.2	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.9	1.8	6.68	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	1.0	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.8	2.6	9.70	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): Fluoranthene	206-44-0	0.5	mg/kg	6.6	5.8	11.9	0% - 50%
		EP075(SIM): Fluorene	86-73-7	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	1.7	1.6	8.75	No Limit
		EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.6	2.6	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	6.4	6.7	5.70	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 (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 264794) - continued									
ES1535096-001	MW203_12.5	EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	32.3	31.0	4.11	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 264579)									
ES1535096-001	MW203_12.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1535158-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 264795)									
ES1535096-001	MW203_12.5	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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 264579)									
ES1535096-001	MW203_12.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1535158-001	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: 264795)									
ES1535096-001	MW203_12.5	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: BTEXN (QC Lot: 264579)									
ES1535096-001	MW203_12.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	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
ES1535158-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Method Blank (MB) and Laboratory Control 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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA010: Conductivity (QCLot: 264945)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	96.2	70	130
EA010: Conductivity (QCLot: 266095)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	99.0	70	130
EA010: Conductivity (QCLot: 267263)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	102	70	130
ED037: Alkalinity (QCLot: 269509)								
ED037: Total Alkalinity as CaCO3	----	1	mg/kg	<1	200 mg/kg	# 248	87	112
ED040S: Soluble Major Anions (QCLot: 264946)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	118	80	120
ED040S: Soluble Major Anions (QCLot: 266099)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	101	80	120
ED040S: Soluble Major Anions (QCLot: 267266)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	104	80	120
ED045G: Chloride by Discrete Analyser (QCLot: 264947)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	109	75	125
				<10	5000 mg/kg	94.4	79	117
ED045G: Chloride by Discrete Analyser (QCLot: 266098)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	95.8	75	125
				<10	5000 mg/kg	94.0	79	117
ED045G: Chloride by Discrete Analyser (QCLot: 267267)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	99.0	75	125
				<10	5000 mg/kg	92.5	79	117
ED093S: Soluble Major Cations (QCLot: 264943)								
ED093S: Potassium	7440-09-7	10	mg/kg	<10	50 mg/kg	107	80	120
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	106	80	112
ED093S: Soluble Major Cations (QCLot: 266097)								
ED093S: Potassium	7440-09-7	10	mg/kg	<10	50 mg/kg	116	80	120
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	95.4	80	112
ED093S: Soluble Major Cations (QCLot: 267265)								
ED093S: Potassium	7440-09-7	10	mg/kg	<10	50 mg/kg	99.5	80	120
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	99.1	80	112
EG005T: Total Metals by ICP-AES (QCLot: 265031)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 265031) - continued								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	107	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 265032)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	75.6	70	105
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 265046)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	123	70	130
EK040T: Fluoride Total (QCLot: 268929)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	950 mg/kg	82.7	69	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 269668)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	95.0	62	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 264794)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	98.6	79	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	97.4	77	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	99.3	79	123
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	95.3	73	121
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	98.0	76	122
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	89.4	70	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	87.8	72	114
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	91.7	77	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	95.2	81	123
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	91.3	72	113
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	92.5	79	123
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	96.2	77	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	92.4	71	113
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	91.7	80	124
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	99.6	79	123
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	95.2	79	125
EP080/071: Total Petroleum Hydrocarbons (QCLot: 264579)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	107	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 264795)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	102	71	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	110	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	108	64	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 264579)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	108	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 264795)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	102	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 264795) - continued								
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	120	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	90.6	63	131
EP080: BTEXN (QCLot: 264579)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	102	62	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	106	58	118
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	104	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	87.7	62	138
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	109	60	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	104	62	128

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
ED045G: Chloride by Discrete Analyser (QCLot: 264947)							
ES1535096-003	MW201_11.5	ED045G: Chloride	16887-00-6	1250 mg/kg	113	70	130
ED045G: Chloride by Discrete Analyser (QCLot: 266098)							
ES1535092-021	Anonymous	ED045G: Chloride	16887-00-6	1250 mg/kg	109	70	130
ED045G: Chloride by Discrete Analyser (QCLot: 267267)							
ES1535096-002	MW205_12.2	ED045G: Chloride	16887-00-6	1250 mg/kg	109	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 265032)							
ES1535011-006	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	89.5	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 265046)							
ES1535096-001	MW203_12.5	EK026SF: Total Cyanide	57-12-5	20 mg/kg	# Not Determined	70	130
EK040T: Fluoride Total (QCLot: 268929)							
ES1535218-013	Anonymous	EK040T: Fluoride	16984-48-8	400 mg/kg	85.5	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 269668)							
ES1535096-001	MW203_12.5	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	100.0	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 264794)							
ES1535096-001	MW203_12.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	94.6	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	94.7	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
EP080/071: Total Petroleum Hydrocarbons (QCLot: 264579)							
ES1535096-001	MW203_12.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	113	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 264795)							
ES1535096-001	MW203_12.5	EP071: C10 - C14 Fraction	----	523 mg/kg	107	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	105	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	126	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 264579)							
ES1535096-001	MW203_12.5	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	113	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 264795)							
ES1535096-001	MW203_12.5	EP071: >C10 - C16 Fraction	----	860 mg/kg	91.2	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	118	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	113	52	132
EP080: BTEXN (QCLot: 264579)							
ES1535096-001	MW203_12.5	EP080: Benzene	71-43-2	2.5 mg/kg	100	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	96.4	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	96.8	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	86.7	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	99.2	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	99.0	70	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1535096**	Page	: 1 of 9
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR NEIL WOODBRIDGE	Telephone	: +61-2-8784 8555
Project	: AS130456 CWS GW INSTALLATION	Date Samples Received	: 02-Nov-2015
Site	: ----	Issue Date	: 10-Nov-2015
Sampler	: MARK TIEDEMAN	No. of samples received	: 5
Order number	: ----	No. of samples analysed	: 5

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.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
ED037: Alkalinity	QC-269509-002	----	**Total Alkalinity as CaCO3**	----	248 %	87-112%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EK026SF: Total CN by Segmented Flow Analyser	ES1535096--001	MW203_12.5	**Total Cyanide**	57-12-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Cations - soluble by ICP-AES	0	1	0.00	10.00	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	0	1	0.00	10.00	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)					
Total Metals by ICP-AES	0	5	0.00	5.00	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Analysis Holding Time Compliance

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
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved (EA002) MW201_11.5	**27-Oct-2015**	**03-Nov-2015**	03-Nov-2015	✓	**03-Nov-2015**	03-Nov-2015	✓
Soil Glass Jar - Unpreserved (EA002) MW203_12.5, MW203_14.5	**29-Oct-2015**	**04-Nov-2015**	05-Nov-2015	✓	**04-Nov-2015**	04-Nov-2015	✓
Soil Glass Jar - Unpreserved (EA002) MW205_12.2, MW205_14.5	**30-Oct-2015**	**05-Nov-2015**	06-Nov-2015	✓	**05-Nov-2015**	05-Nov-2015	✓

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
EA010: Conductivity							
Soil Glass Jar - Unpreserved (EA010) MW201_11.5	**27-Oct-2015**	**03-Nov-2015**	03-Nov-2015	✓	**03-Nov-2015**	01-Dec-2015	✓
Soil Glass Jar - Unpreserved (EA010) MW203_12.5, MW203_14.5	**29-Oct-2015**	**04-Nov-2015**	05-Nov-2015	✓	**04-Nov-2015**	02-Dec-2015	✓
Soil Glass Jar - Unpreserved (EA010) MW205_12.2, MW205_14.5	**30-Oct-2015**	**05-Nov-2015**	06-Nov-2015	✓	**05-Nov-2015**	03-Dec-2015	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103) MW201_11.5	**27-Oct-2015**	**----**	----	----	**03-Nov-2015**	10-Nov-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) MW203_12.5, MW203_14.5	**29-Oct-2015**	**----**	----	----	**03-Nov-2015**	12-Nov-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) MW205_12.2, MW205_14.5	**30-Oct-2015**	**----**	----	----	**03-Nov-2015**	13-Nov-2015	✓
ED037: Alkalinity							
Soil Glass Jar - Unpreserved (ED037) MW201_11.5	**27-Oct-2015**	**07-Nov-2015**	24-Apr-2016	✓	**09-Nov-2015**	24-Apr-2016	✓
Soil Glass Jar - Unpreserved (ED037) MW203_12.5, MW203_14.5	**29-Oct-2015**	**07-Nov-2015**	26-Apr-2016	✓	**09-Nov-2015**	26-Apr-2016	✓
Soil Glass Jar - Unpreserved (ED037) MW205_12.2, MW205_14.5	**30-Oct-2015**	**07-Nov-2015**	27-Apr-2016	✓	**09-Nov-2015**	27-Apr-2016	✓
ED040S : Soluble Sulfate by ICPAES							
Soil Glass Jar - Unpreserved (ED040S) MW201_11.5	**27-Oct-2015**	**03-Nov-2015**	24-Nov-2015	✓	**03-Nov-2015**	01-Dec-2015	✓
Soil Glass Jar - Unpreserved (ED040S) MW203_12.5, MW203_14.5	**29-Oct-2015**	**04-Nov-2015**	26-Nov-2015	✓	**04-Nov-2015**	02-Dec-2015	✓
Soil Glass Jar - Unpreserved (ED040S) MW205_12.2, MW205_14.5	**30-Oct-2015**	**05-Nov-2015**	27-Nov-2015	✓	**05-Nov-2015**	03-Dec-2015	✓
ED045G: Chloride by Discrete Analyser							
Soil Glass Jar - Unpreserved (ED045G) MW201_11.5	**27-Oct-2015**	**03-Nov-2015**	24-Nov-2015	✓	**03-Nov-2015**	01-Dec-2015	✓
Soil Glass Jar - Unpreserved (ED045G) MW203_12.5, MW203_14.5	**29-Oct-2015**	**04-Nov-2015**	26-Nov-2015	✓	**04-Nov-2015**	02-Dec-2015	✓
Soil Glass Jar - Unpreserved (ED045G) MW205_12.2, MW205_14.5	**30-Oct-2015**	**05-Nov-2015**	27-Nov-2015	✓	**05-Nov-2015**	03-Dec-2015	✓
ED093S: Soluble Major Cations							
Soil Glass Jar - Unpreserved (ED093S) MW201_11.5	**27-Oct-2015**	**03-Nov-2015**	24-Apr-2016	✓	**03-Nov-2015**	24-Apr-2016	✓
Soil Glass Jar - Unpreserved (ED093S) MW203_12.5, MW203_14.5	**29-Oct-2015**	**04-Nov-2015**	26-Apr-2016	✓	**04-Nov-2015**	26-Apr-2016	✓
Soil Glass Jar - Unpreserved (ED093S) MW205_12.2, MW205_14.5	**30-Oct-2015**	**05-Nov-2015**	27-Apr-2016	✓	**05-Nov-2015**	27-Apr-2016	✓

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
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) MW201_11.5	**27-Oct-2015**	**03-Nov-2015**	24-Apr-2016	✓	**05-Nov-2015**	24-Apr-2016	✓
Soil Glass Jar - Unpreserved (EG005T) MW203_12.5, MW203_14.5	**29-Oct-2015**	**03-Nov-2015**	26-Apr-2016	✓	**05-Nov-2015**	26-Apr-2016	✓
Soil Glass Jar - Unpreserved (EG005T) MW205_12.2, MW205_14.5	**30-Oct-2015**	**03-Nov-2015**	27-Apr-2016	✓	**05-Nov-2015**	27-Apr-2016	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) MW201_11.5	**27-Oct-2015**	**03-Nov-2015**	24-Nov-2015	✓	**04-Nov-2015**	24-Nov-2015	✓
Soil Glass Jar - Unpreserved (EG035T) MW203_12.5, MW203_14.5	**29-Oct-2015**	**03-Nov-2015**	26-Nov-2015	✓	**04-Nov-2015**	26-Nov-2015	✓
Soil Glass Jar - Unpreserved (EG035T) MW205_12.2, MW205_14.5	**30-Oct-2015**	**03-Nov-2015**	27-Nov-2015	✓	**04-Nov-2015**	27-Nov-2015	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF) MW201_11.5	**27-Oct-2015**	**03-Nov-2015**	10-Nov-2015	✓	**05-Nov-2015**	17-Nov-2015	✓
Soil Glass Jar - Unpreserved (EK026SF) MW203_12.5, MW203_14.5	**29-Oct-2015**	**03-Nov-2015**	12-Nov-2015	✓	**05-Nov-2015**	17-Nov-2015	✓
Soil Glass Jar - Unpreserved (EK026SF) MW205_12.2, MW205_14.5	**30-Oct-2015**	**03-Nov-2015**	13-Nov-2015	✓	**05-Nov-2015**	17-Nov-2015	✓
EK040T: Fluoride Total							
Pulp Bag (EK040T) MW201_11.5	**27-Oct-2015**	**04-Nov-2015**	24-Nov-2015	✓	**06-Nov-2015**	24-Nov-2015	✓
Pulp Bag (EK040T) MW203_12.5, MW203_14.5	**29-Oct-2015**	**04-Nov-2015**	26-Nov-2015	✓	**06-Nov-2015**	26-Nov-2015	✓
Pulp Bag (EK040T) MW205_12.2, MW205_14.5	**30-Oct-2015**	**04-Nov-2015**	27-Nov-2015	✓	**06-Nov-2015**	27-Nov-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) MW201_11.5	**27-Oct-2015**	**06-Nov-2015**	10-Nov-2015	✓	**06-Nov-2015**	16-Dec-2015	✓
Soil Glass Jar - Unpreserved (EP066) MW203_12.5, MW203_14.5	**29-Oct-2015**	**06-Nov-2015**	12-Nov-2015	✓	**06-Nov-2015**	16-Dec-2015	✓
Soil Glass Jar - Unpreserved (EP066) MW205_12.2, MW205_14.5	**30-Oct-2015**	**06-Nov-2015**	13-Nov-2015	✓	**06-Nov-2015**	16-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071) MW201_11.5	**27-Oct-2015**	**04-Nov-2015**	10-Nov-2015	✓	**04-Nov-2015**	14-Dec-2015	✓
Soil Glass Jar - Unpreserved (EP071) MW203_12.5, MW203_14.5	**29-Oct-2015**	**04-Nov-2015**	12-Nov-2015	✓	**04-Nov-2015**	14-Dec-2015	✓
Soil Glass Jar - Unpreserved (EP071) MW205_12.2, MW205_14.5	**30-Oct-2015**	**04-Nov-2015**	13-Nov-2015	✓	**04-Nov-2015**	14-Dec-2015	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) MW201_11.5	**27-Oct-2015**	**04-Nov-2015**	10-Nov-2015	✓	**04-Nov-2015**	14-Dec-2015	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) MW203_12.5, MW203_14.5	**29-Oct-2015**	**04-Nov-2015**	12-Nov-2015	✓	**04-Nov-2015**	14-Dec-2015	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) MW205_12.2, MW205_14.5	**30-Oct-2015**	**04-Nov-2015**	13-Nov-2015	✓	**04-Nov-2015**	14-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) MW201_11.5	**27-Oct-2015**	**03-Nov-2015**	10-Nov-2015	✓	**03-Nov-2015**	10-Nov-2015	✓
Soil Glass Jar - Unpreserved (EP080) MW203_12.5, MW203_14.5	**29-Oct-2015**	**03-Nov-2015**	12-Nov-2015	✓	**03-Nov-2015**	12-Nov-2015	✓
Soil Glass Jar - Unpreserved (EP080) MW205_12.2, MW205_14.5	**30-Oct-2015**	**03-Nov-2015**	13-Nov-2015	✓	**03-Nov-2015**	13-Nov-2015	✓

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)							
Alkalinity in Soil	ED037	1	8	**12.50**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	0	1	**0.00**	**10.00**	×	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	1	1	**100.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	1	**100.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	0	1	**0.00**	**10.00**	×	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.11**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	1	1	**100.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	2	11	**18.18**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	12	**16.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	5	**40.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	11	**18.18**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity in Soil	ED037	1	8	**12.50**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	2	1	**200.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.11**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	2	7	**28.57**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	11	**9.09**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	**8.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	**9.09**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Alkalinity in Soil	ED037	1	8	**12.50**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.11**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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							
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	11	**9.09**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	**8.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	**9.09**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	9	**11.11**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	7	**14.29**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	11	**9.09**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	**8.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	0	5	**0.00**	**5.00**	×	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	**9.09**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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 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) (Method 103)
Electrical Conductivity (1:5)	EA010	SOIL	In house: Referenced to 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) (Method 104)
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Alkalinity in Soil	ED037	SOIL	In house: Referenced to APHA 2320 B Alkalinity is determined and reported on a 1:5 soil/water leach.
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 21st edition 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.
Cations - soluble by ICP-AES	ED093S	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010 (ICPAES) Water extracts of the soil are analyzed for major cations by ICPAES. 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 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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.

Analytical Methods	Method	Matrix	Method Descriptions
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) 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)
TRH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) 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	(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.

Preparation Methods	Method	Matrix	Method Descriptions
Total Fluoride	EK040T-PR	SOIL	(In-house) Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(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.

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Chain of Custody & Analysis Request Form

Ramboll Environ
Level 2, Suite 19B, 50 Glebe Road
The Junction NSW 2291

Tel: 02 49625444
Email: mtiedeman@environcorp.com
Email: frobinson@environcorp.com

Laboratory Details

Lab. Name: ALS
Lab. Address: 277-289 Woodpark Road, Smithfield NSW
Contact Name:
Lab. Ref:

Tel: 02 8784 8555
Fax: 02 8784 8500
Final Report by:
Lab Quote No:

Project Name: CWS GW Installation **Project Number:** AS130456 **Purchase Order Number:**

Sample collected by: Mark Tiedeman **Sample Results to be returned to:** mtiedeman@environcorp.com; frobinson@environcorp.com

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days) STANDARD	☐ Yes	☑ No	☐ N/A
2. Fast TAT Guarantee Required?	☑ Yes	☑ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☑ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: esdat / excel / pdf 8. Project Manager: Neil Woodridge tel:

Analysis Request

Lab. ID	Sample ID	Sampling Date	Sampling Time	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH/EC	Total Alkalinity	Sodium / Potassium / Chloride	Fluoride / Sulphate	Cyanide	Carbonate	Aluminium	PAH / TRH / BTEX / PCB	Mercury	HOLD
1	MW203-12.5	29/10										X	X	X	X	X	X	X	X	X	
2	MW205-12.5	30/10										X	X	X	X	X	X	X	X	X	
3	MW201-11.5	27/10										X	X	X	X	X	X	X	X	X	
4	MW205-14.5	30/10										X	X	X	X	X	X	X	X	X	
5	MW203-14.5	29/10										X	X	X	X	X	X	X	X	X	

Remarks & comments

Environmental Division
Sydney
Work Order Reference
ES1535096

Telephone : +61-2-8784 8555

E-MAILED ☐ Courier ☐ Postal ☐ By Hand

Relinquished By:	Received by:			
Mark Tiedeman	Name: K. McMahon	Received in good condition?	Yes/No/NA	Method of Shipment
Date: 2/11/15	Date: 2/11/15	Samples received chilled?	Yes/No/NA	Consignment Note No. ☐ Courier ☐ Postal ☐ By Hand
of: Ramboll Environ	of: ALS EN		Yes/No/NA	Transport Co:
Time: 1:30	Time: 13:55			
Relinquished By:	**Received by:**	Received in good condition?	Yes/No/NA	Method of Shipment
Name: K. McMahon	Name: Sep M.	Samples received chilled?	Yes/No/NA	Consignment Note No.
Date: 2/11/15	Date: 02/11/15		Yes/No/NA	Transport Co:
of: ALS EN ~~Environment~~	of: ALS SYD			
Time: 17:00	Time: 1930			

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1535263**	Page	: 1 of 5
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR NEIL WOODBRIDGE	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: nrwoodbridge@environcorp.com	E-mail	:
Telephone	: +61 02 99548114	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: AS130456	Date Samples Received	: 03-Nov-2015 16:40
C-O-C number	: ----	Date Analysis Commenced	: 04-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 11-Nov-2015 11:04
Site	: ----		
		No. of samples received	: 8
Quote number	: ----	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dian Dao		Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics

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.

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.

- EP071: Results of sample MW206_12 have been confirmed by re-extraction and re-analysis.
- ED037 (Alkalinity): Analysed on 1:5 leachate; LOR in mg/kg adjusted accordingly.
- ED045G:LOR raised for Chloride analysis on sample ID(MW201_14) due to sample matrix.
- Poor precision was obtained for Mercury on sample ES1535156 #001. Results have been confirmed by re-extraction and reanalysis.
- 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.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW201_14	MW206_12	MW206_15.0	----	----
			Client sampling date / time	[28-Oct-2015]	[03-Nov-2015]	[03-Nov-2015]	----	----
Compound	CAS Number	LOR	Unit	ES1535263-001	ES1535263-002	ES1535263-008	--------	--------
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	10.1	9.9	10.5	----	----
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	3230	4840	4030	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	16.5	23.1	20.0	----	----
ED037: Alkalinity								
Total Alkalinity as CaCO3	----	1	mg/kg	2100	3280	1340	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/kg	1100	2230	499	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/kg	998	1050	840	----	----
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	950	2480	2400	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	10	mg/kg	<100	150	130	----	----
ED093S: Soluble Major Cations								
Sodium	7440-23-5	10	mg/kg	5630	6730	5170	----	----
Potassium	7440-09-7	10	mg/kg	1600	60	40	----	----
EG005T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	16100	103000	8890	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.1	<0.1	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	53	100	60	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	1170	69000	1510	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
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	3.4	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	1.8	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	13.4	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	3.2	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW201_14	MW206_12	MW206_15.0	----	----
				Client sampling date / time	[28-Oct-2015]	[03-Nov-2015]	[03-Nov-2015]	----	----
Compound	CAS Number	LOR	Unit		ES1535263-001	ES1535263-002	ES1535263-008	--------	--------
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluoranthene	206-44-0	0.5	mg/kg		**0.6**	**42.2**	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg		**0.6**	**45.3**	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	**48.2**	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg		**0.6**	**49.3**	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**0.5**	**86.0**	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	**22.8**	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	**60.0**	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	**39.5**	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	**12.6**	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	**47.2**	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**2.3**	**475**	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	**93.2**	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**93.2**	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**93.2**	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	**1020**	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	**1860**	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**2880**	<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	**2340**	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	**1120**	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**3460**	<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	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW201_14	MW206_12	MW206_15.0	----	----
				Client sampling date / time	[28-Oct-2015]	[03-Nov-2015]	[03-Nov-2015]	----	----
Compound	CAS Number	LOR	Unit		ES1535263-001	ES1535263-002	ES1535263-008	--------	--------
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
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	1330-20-7	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	%		110	129	99.0	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		101	95.0	93.9	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		95.9	93.6	87.9	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		74.6	82.5	82.0	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		98.6	97.8	90.2	----	----
Anthracene-d10	1719-06-8	0.5	%		107	102	99.5	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		94.2	97.5	87.2	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		99.3	90.6	90.4	----	----
Toluene-D8	2037-26-5	0.2	%		102	97.2	90.0	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		98.2	90.5	90.3	----	----

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1535263**	Page	: 1 of 10
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR NEIL WOODBRIDGE	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: nrwoodbridge@environcorp.com	E-mail	:
Telephone	: +61 02 99548114	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: AS130456	Date Samples Received	: 03-Nov-2015
C-O-C number	: ----	Date Analysis Commenced	: 04-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 11-Nov-2015
Site	: ----	No. of samples received	: 8
Quote number	: ----	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

NATA WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dian Dao		Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics

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 (Soils) (QC Lot: 265614)									
ES1534970-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	5.8	5.8	0.00	0% - 20%
EA002 : pH (Soils) (QC Lot: 270508)									
ES1535194-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.1	6.3	3.54	0% - 20%
ES1535327-009	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.9	7.0	1.44	0% - 20%
EA010: Conductivity (QC Lot: 265615)									
ES1534970-001	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	75	74	2.55	0% - 20%
EA010: Conductivity (QC Lot: 270509)									
ES1535263-008	MW206_15.0	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	4030	3990	0.998	0% - 20%
ES1535327-009	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	180	186	3.72	0% - 20%
EA055: Moisture Content (QC Lot: 266147)									
ES1535218-016	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	21.5	20.9	2.68	0% - 20%
ES1535263-002	MW206_12	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	23.1	23.3	1.02	0% - 20%
ED037: Alkalinity (QC Lot: 269509)									
ES1535096-001	Anonymous	ED037: Total Alkalinity as CaCO3	----	1	mg/kg	1320	1310	1.05	0% - 20%
ED040S: Soluble Major Anions (QC Lot: 270506)									
ES1534806-004	Anonymous	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	10	10	0.00	No Limit
ES1535263-008	MW206_15.0	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	2400	2480	2.94	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 265616)									
ES1535263-001	MW201_14	ED045G: Chloride	16887-00-6	10	mg/kg	<100	<100	0.00	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 270507)									
ES1535194-001	Anonymous	ED045G: Chloride	16887-00-6	10	mg/kg	230	230	0.00	0% - 20%
ES1535263-008	MW206_15.0	ED045G: Chloride	16887-00-6	10	mg/kg	130	130	0.00	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 267081)									
ES1535156-001	Anonymous	EG005T: Aluminium	7429-90-5	50	mg/kg	7790	7690	1.27	0% - 20%
ES1535179-008	Anonymous	EG005T: Aluminium	7429-90-5	50	mg/kg	7140	7210	1.11	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 267082)									
ES1535156-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	4.9	# 7.1	36.0	0% - 20%
ES1535179-008	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 266476)									
ES1535262-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.00	No Limit
ES1535218-013	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.00	No Limit
EK040T: Fluoride Total (QC Lot: 268929)									
ES1535218-013	Anonymous	EK040T: Fluoride	16984-48-8	40	mg/kg	120	130	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 (%)*
EK040T: Fluoride Total (QC Lot: 268929) - continued									
ES1535096-005	Anonymous	EK040T: Fluoride	16984-48-8	40	mg/kg	90	90	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 266509)									
ES1535311-007	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1535311-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 266507)									
ES1535311-007	Anonymous	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	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): Benzo(a)pyrene	50-32-8	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): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	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): Fluoranthene	206-44-0	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): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene	91-20-3	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): Pyrene	129-00-0	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
ES1535311-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	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): Benzo(a)pyrene	50-32-8	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): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	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): Fluoranthene	206-44-0	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): Indeno(1.2.3.cd)pyrene	193-39-5	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 (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 266507) - continued									
ES1535311-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	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): Pyrene	129-00-0	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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 266085)									
EB1533240-003	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1535210-007	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 266506)									
ES1535311-007	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
ES1535311-001	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: 266085)									
EB1533240-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1535210-007	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: 266506)									
ES1535311-007	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
ES1535311-001	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: 266085)									
EB1533240-003	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	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
ES1535210-007	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: 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: 266085) - continued									
ES1535210-007	Anonymous	EP080: Naphthalene	91-20-3	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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA010: Conductivity (QCLot: 265615)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	94.9	70	130
EA010: Conductivity (QCLot: 270509)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	106	70	130
ED037: Alkalinity (QCLot: 269509)								
ED037: Total Alkalinity as CaCO3	----	1	mg/kg	<1	200 mg/kg	# 248	87	112
ED040S: Soluble Major Anions (QCLot: 265617)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	104	80	120
ED040S: Soluble Major Anions (QCLot: 270506)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	97.2	80	120
ED045G: Chloride by Discrete Analyser (QCLot: 265616)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	103	75	125
				<10	5000 mg/kg	85.8	79	117
ED045G: Chloride by Discrete Analyser (QCLot: 270507)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	98.1	75	125
				<10	5000 mg/kg	86.3	79	117
ED093S: Soluble Major Cations (QCLot: 265618)								
ED093S: Potassium	7440-09-7	10	mg/kg	<10	50 mg/kg	110	80	120
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	110	80	112
ED093S: Soluble Major Cations (QCLot: 270510)								
ED093S: Potassium	7440-09-7	10	mg/kg	<10	50 mg/kg	101	83	125
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	105	81	123
EG005T: Total Metals by ICP-AES (QCLot: 267081)								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	115	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 267082)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	81.2	70	105
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 266476)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	110	70	130
EK040T: Fluoride Total (QCLot: 268929)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	950 mg/kg	82.7	69	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 266509)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	90.0	57	117
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 266507)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 266507) - continued								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	96.5	79	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	96.8	77	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	89.3	79	123
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	92.0	73	121
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	95.4	76	122
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	99.6	70	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	87.9	72	114
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	91.8	77	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	96.8	81	123
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	92.9	72	113
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	97.1	79	123
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	90.1	77	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	92.8	71	113
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	95.0	80	124
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	98.5	79	123
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	95.2	79	125
EP080/071: Total Petroleum Hydrocarbons (QCLot: 266085)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	82.1	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 266506)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	101	71	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	101	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	106	64	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 266085)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	82.0	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 266506)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	102	70	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	108	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	91.4	63	131
EP080: BTEXN (QCLot: 266085)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	87.1	62	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	80.1	58	118
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	80.5	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	80.3	62	138
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	82.1	60	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	81.7	62	128

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: 265616)							
ES1535263-001	MW201_14	ED045G: Chloride	16887-00-6	1250 mg/kg	106	70	130
ED045G: Chloride by Discrete Analyser (QCLot: 270507)							
ES1535189-001	Anonymous	ED045G: Chloride	16887-00-6	1250 mg/kg	# Not Determined	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 267082)							
ES1535156-002	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	100	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 266476)							
ES1535218-013	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	99.9	70	130
EK040T: Fluoride Total (QCLot: 268929)							
ES1535218-013	Anonymous	EK040T: Fluoride	16984-48-8	400 mg/kg	85.5	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 266509)							
ES1535311-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	100.0	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 266507)							
ES1535311-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	99.6	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	96.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 266085)							
EB1533240-003	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	102	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 266506)							
ES1535311-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	100	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	103	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	120	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 266085)							
EB1533240-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	101	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 266506)							
ES1535311-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	93.5	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	116	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	109	52	132
EP080: BTEXN (QCLot: 266085)							
EB1533240-003	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	86.6	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.0	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
EP080: BTEXN (QCLot: 266085) - continued							
EB1533240-003	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	84.3	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	85.5	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	86.3	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	82.4	70	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1535263**	Page	: 1 of 8
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR NEIL WOODBRIDGE	Telephone	: +61-2-8784 8555
Project	: AS130456 CWS GW INSTALLATION	Date Samples Received	: 03-Nov-2015
Site	: ----	Issue Date	: 11-Nov-2015
Sampler	: MARK TIEDEMAN	No. of samples received	: 8
Order number	: AS130456	No. of samples analysed	: 3

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.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG035T: Total Recoverable Mercury by FIMS	ES1535156--001	Anonymous	**Mercury**	7439-97-6	36.0 %	0% - 20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
ED037: Alkalinity	QC-269509-002	----	**Total Alkalinity as CaCO3**	----	248 %	87-112%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
ED045G: Chloride by Discrete Analyser	ES1535189--001	Anonymous	**Chloride**	16887-00-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Cations - soluble by ICP-AES	0	1	0.00	10.00	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	0	1	0.00	10.00	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)					
Total Metals by ICP-AES	0	3	0.00	5.00	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Analysis Holding Time Compliance

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* Date extracted	Due for extraction	Evaluation	*Analysis* Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved (EA002) MW206_12, MW206_15.0	**03-Nov-2015**	**09-Nov-2015**	10-Nov-2015	✓	**09-Nov-2015**	09-Nov-2015	✓
Soil Glass Jar - Unpreserved (EA002) MW201_14	**28-Oct-2015**	**04-Nov-2015**	04-Nov-2015	✓	**04-Nov-2015**	04-Nov-2015	✓
EA010: Conductivity							
Soil Glass Jar - Unpreserved (EA010) MW206_12, MW206_15.0	**03-Nov-2015**	**09-Nov-2015**	10-Nov-2015	✓	**09-Nov-2015**	07-Dec-2015	✓
Soil Glass Jar - Unpreserved (EA010) MW201_14	**28-Oct-2015**	**04-Nov-2015**	04-Nov-2015	✓	**04-Nov-2015**	02-Dec-2015	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103) MW206_12,	MW206_15.0	**03-Nov-2015**	**----**	----	----	**04-Nov-2015**	17-Nov-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) MW201_14		**28-Oct-2015**	**----**	----	----	**04-Nov-2015**	11-Nov-2015	✓
ED037: Alkalinity								
Soil Glass Jar - Unpreserved (ED037) MW206_12,	MW206_15.0	**03-Nov-2015**	**07-Nov-2015**	01-May-2016	✓	**09-Nov-2015**	01-May-2016	✓
Soil Glass Jar - Unpreserved (ED037) MW201_14		**28-Oct-2015**	**07-Nov-2015**	25-Apr-2016	✓	**09-Nov-2015**	25-Apr-2016	✓
ED040S : Soluble Sulfate by ICPAES								
Soil Glass Jar - Unpreserved (ED040S) MW206_12,	MW206_15.0	**03-Nov-2015**	**09-Nov-2015**	01-Dec-2015	✓	**09-Nov-2015**	07-Dec-2015	✓
Soil Glass Jar - Unpreserved (ED040S) MW201_14		**28-Oct-2015**	**04-Nov-2015**	25-Nov-2015	✓	**04-Nov-2015**	02-Dec-2015	✓
ED045G: Chloride by Discrete Analyser								
Soil Glass Jar - Unpreserved (ED045G) MW206_12,	MW206_15.0	**03-Nov-2015**	**09-Nov-2015**	01-Dec-2015	✓	**09-Nov-2015**	07-Dec-2015	✓
Soil Glass Jar - Unpreserved (ED045G) MW201_14		**28-Oct-2015**	**04-Nov-2015**	25-Nov-2015	✓	**04-Nov-2015**	02-Dec-2015	✓
ED093S: Soluble Major Cations								
Soil Glass Jar - Unpreserved (ED093S) MW206_12,	MW206_15.0	**03-Nov-2015**	**09-Nov-2015**	01-May-2016	✓	**09-Nov-2015**	01-May-2016	✓
Soil Glass Jar - Unpreserved (ED093S) MW201_14		**28-Oct-2015**	**04-Nov-2015**	25-Apr-2016	✓	**04-Nov-2015**	25-Apr-2016	✓
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) MW206_12,	MW206_15.0	**03-Nov-2015**	**05-Nov-2015**	01-May-2016	✓	**06-Nov-2015**	01-May-2016	✓
Soil Glass Jar - Unpreserved (EG005T) MW201_14		**28-Oct-2015**	**05-Nov-2015**	25-Apr-2016	✓	**06-Nov-2015**	25-Apr-2016	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) MW206_12,	MW206_15.0	**03-Nov-2015**	**05-Nov-2015**	01-Dec-2015	✓	**08-Nov-2015**	01-Dec-2015	✓
Soil Glass Jar - Unpreserved (EG035T) MW201_14		**28-Oct-2015**	**05-Nov-2015**	25-Nov-2015	✓	**08-Nov-2015**	25-Nov-2015	✓
EK026SF: Total CN by Segmented Flow Analyser								
Soil Glass Jar - Unpreserved (EK026SF) MW206_12,	MW206_15.0	**03-Nov-2015**	**04-Nov-2015**	17-Nov-2015	✓	**05-Nov-2015**	18-Nov-2015	✓
Soil Glass Jar - Unpreserved (EK026SF) MW201_14		**28-Oct-2015**	**04-Nov-2015**	11-Nov-2015	✓	**05-Nov-2015**	18-Nov-2015	✓

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
EK040T: Fluoride Total							
Pulp Bag (EK040T) MW206_12, MW206_15.0	**03-Nov-2015**	**04-Nov-2015**	01-Dec-2015	✓	**06-Nov-2015**	01-Dec-2015	✓
Pulp Bag (EK040T) MW201_14	**28-Oct-2015**	**04-Nov-2015**	25-Nov-2015	✓	**06-Nov-2015**	25-Nov-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) MW206_12, MW206_15.0	**03-Nov-2015**	**04-Nov-2015**	17-Nov-2015	✓	**05-Nov-2015**	14-Dec-2015	✓
Soil Glass Jar - Unpreserved (EP066) MW201_14	**28-Oct-2015**	**04-Nov-2015**	11-Nov-2015	✓	**05-Nov-2015**	14-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071) MW206_12, MW206_15.0	**03-Nov-2015**	**04-Nov-2015**	17-Nov-2015	✓	**05-Nov-2015**	14-Dec-2015	✓
Soil Glass Jar - Unpreserved (EP071) MW201_14	**28-Oct-2015**	**04-Nov-2015**	11-Nov-2015	✓	**05-Nov-2015**	14-Dec-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) MW206_12, MW206_15.0	**03-Nov-2015**	**04-Nov-2015**	17-Nov-2015	✓	**05-Nov-2015**	14-Dec-2015	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) MW201_14	**28-Oct-2015**	**04-Nov-2015**	11-Nov-2015	✓	**05-Nov-2015**	14-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) MW206_12, MW206_15.0	**03-Nov-2015**	**04-Nov-2015**	17-Nov-2015	✓	**04-Nov-2015**	17-Nov-2015	✓
Soil Glass Jar - Unpreserved (EP080) MW201_14	**28-Oct-2015**	**04-Nov-2015**	11-Nov-2015	✓	**04-Nov-2015**	11-Nov-2015	✓

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)							
Alkalinity in Soil	ED037	1	8	**12.50**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	0	1	**0.00**	**10.00**	×	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	1	1	**100.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	2	**50.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	0	1	**0.00**	**10.00**	×	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	17	**11.76**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	1	2	**50.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	2	12	**16.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	2	13	**15.38**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	2	11	**18.18**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	3	**66.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	2	18	**11.11**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	14	**14.29**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity in Soil	ED037	1	8	**12.50**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	2	1	**200.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	2	**50.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	17	**5.88**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	12	**8.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	2	13	**15.38**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	11	**9.09**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	3	**33.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	18	**5.56**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Alkalinity in Soil	ED037	1	8	**12.50**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	2	**50.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	17	**5.88**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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							
Polychlorinated Biphenyls (PCB)	EP066	1	12	**8.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	13	**7.69**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	11	**9.09**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	3	**33.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	18	**5.56**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	1	1	**100.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	17	**5.88**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	12	**8.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	13	**7.69**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	11	**9.09**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	0	3	**0.00**	**5.00**	×	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	18	**5.56**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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	WATER	In house: Referenced to 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) (Method 103)
Electrical Conductivity (1:5)	EA010	WATER	In house: Referenced to 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) (Method 104)
Moisture Content	EA055-103	WATER	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Alkalinity in Soil	ED037	WATER	In house: Referenced to APHA 2320 B Alkalinity is determined and reported on a 1:5 soil/water leach.
Major Anions - Soluble	ED040S	WATER	In-house. Soluble Anions are determined off a 1:5 soil / water extract by ICPAES.
Chloride Soluble By Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 21st edition 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.
Cations - soluble by ICP-AES	ED093S	WATER	In house: Referenced to APHA 3120; USEPA SW 846 - 6010 (ICPAES) Water extracts of the soil are analyzed for major cations by ICPAES. 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 Metals by ICP-AES	EG005T	WATER	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	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Total Fluoride	EK040T	WATER	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.

Analytical Methods	Method	Matrix	Method Descriptions
Polychlorinated Biphenyls (PCB)	EP066	WATER	(USEPA SW 846 - 8270B) 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)
TRH - Semivolatile Fraction	EP071	WATER	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40.
PAH/Phenols (SIM)	EP075(SIM)	WATER	(USEPA SW 846 - 8270B) 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	WATER	(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.

Preparation Methods	Method	Matrix	Method Descriptions
Total Fluoride	EK040T-PR	WATER	(In-house) Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	WATER	(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	WATER	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.

RAMBOLL ENVIRON

Chain of Custody & Analysis Request Form

Ramboll Environ
Level 2, Suite 19B, 50 Glebe Road
The Junction NSW 2291
Tel: 02 49625444
Email: mtiedeman@environcorp.com
Email: frobinson@environcorp.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277-289 Woodpark Road, Smithfield NSW
Contact Name:
Lab. Ref:
Tel: 02 8784 8555
Fax: 02 8784 8500
Final Report by:
Lab Quote No:

Project Name: CWS GW Installation **Project Number:** AS130456 **Purchase Order Number:**

Sample collected by: Mark Tiedeman **Sample Results to be returned to:** mtiedeman@environcorp.com; frobinson@environcorp.com

Specifications: * Short Holding Times

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days) STANDARD	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☑ Yes	☑ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☑ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: esdat / excel / pdf 8. Project Manager: Neil Woodridge tel:

Lab. ID	Sample ID	Sampling Date	Sampling Time	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH/EC	Total Alkalinity	Sodium / Potassium / Chloride	Fluoride / Sulphate	Cyanide	Carbonate	Aluminium	PAH / TRH / BTEX / PCB	Mercury	HOLD	Remarks & comments
1	MW201-14	28/10										x	x	x	x	x	x	x	x	x		
2	MW206-12	3/11										x	x	x	x	x	x	x	x	x		
3	MW206-12.5	↓																			x	
4	MW206-13.0																				x	
5	MW206-13.5																				x	
6	MW206-14.0																				x	
7	MW206-14.5																				x	
8	MW206-15.0	↓										x	x	x	x	x	x	x	x	x		

Relinquished By:
Mark Tiedeman Date: 3/11
of: Ramboll Environ Time: 16:40

Received by:
Name: K. McMahon Date: 3/11/15
of: ALS EN Time: 16:40

Relinquished By:
Name: Date:
of: Environment Time:

Received by:
Name: Sep M. Date: 19/15
of: ALS SYD Time:

Printed copies of this document are uncontrolled
Page 1 of 1

Received in good condition?	Yes/No/NA	Method of Shipment	
Samples received chilled? 4.4	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	
Received in good condition?	Yes/No/NA	Method of Shipment	
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Environmental Division
Sydney
Work Order Reference
ES1535263

Telephone : +61-2-8784 8555

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1535499**	Page	: 1 of 6
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@environcorp.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 05-Nov-2015 16:25
C-O-C number	: ----	Date Analysis Commenced	: 09-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 16-Nov-2015 15:37
Site	: ----		
		No. of samples received	: 11
Quote number	: ----	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alison Graham	Supervisor - Inorganic	Newcastle - Inorganics
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Greg Vogel	Laboratory Manager	Brisbane Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Raymond Commodore	Instrument Chemist	Sydney Inorganics

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.

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.

- ED037 (Alkalinity): Determined and reported on a 1:5 soil:water leach; as such results and LOR values have been adjusted accordingly.
- 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.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW202-12	MW202-13.5	QA101	----	----
			Client sampling date / time	[05-Nov-2015]	[05-Nov-2015]	[05-Nov-2015]	----	----
Compound	CAS Number	LOR	Unit	ES1535499-001	ES1535499-004	ES1535499-011	--------	--------
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**10.5**	**9.9**	**9.8**	----	----
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	**3400**	**3850**	**4630**	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	**20.3**	**12.0**	**13.3**	----	----
ED037: Alkalinity								
Total Alkalinity as CaCO3	----	1	mg/kg	**5580**	**5120**	**5840**	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/kg	<5	**2760**	**2950**	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/kg	**5510**	**2360**	**2890**	----	----
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	**2210**	**1920**	**2180**	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	10	mg/kg	**210**	**290**	**530**	----	----
ED093S: Soluble Major Cations								
Sodium	7440-23-5	10	mg/kg	**3750**	**3760**	**4650**	----	----
Potassium	7440-09-7	10	mg/kg	**40**	**60**	**40**	----	----
EG005T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	**7050**	**12300**	**16800**	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	**26**	**44**	**51**	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	**2880**	**2140**	**3740**	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
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	**0.6**	<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	**4.3**	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	**0.9**	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW202-12	MW202-13.5	QA101	----	----
				Client sampling date / time	[05-Nov-2015]	[05-Nov-2015]	[05-Nov-2015]	----	----
Compound	CAS Number	LOR	Unit		ES1535499-001	ES1535499-004	ES1535499-011	--------	--------
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluoranthene	206-44-0	0.5	mg/kg		**10.2**	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg		**10.4**	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		**4.9**	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg		**4.8**	<0.5	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**7.4**	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		**2.7**	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**6.4**	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**3.4**	<0.5	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**0.7**	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**4.8**	<0.5	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**61.5**	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**9.0**	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**9.0**	**0.6**	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**9.0**	**1.2**	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		**270**	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		**240**	<100	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**510**	<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		**470**	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**470**	<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	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW202-12	MW202-13.5	QA101	----	----
				Client sampling date / time	[05-Nov-2015]	[05-Nov-2015]	[05-Nov-2015]	----	----
Compound	CAS Number	LOR	Unit		ES1535499-001	ES1535499-004	ES1535499-011	--------	--------
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
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	1330-20-7	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	%		79.0	71.0	68.0	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		119	116	117	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		102	100.0	100	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		114	90.6	76.3	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		100	95.2	97.7	----	----
Anthracene-d10	1719-06-8	0.5	%		106	106	107	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		93.8	93.4	95.8	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		98.8	95.0	101	----	----
Toluene-D8	2037-26-5	0.2	%		121	117	119	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		114	116	121	----	----

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1535499**	Page	: 1 of 8
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@environcorp.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 05-Nov-2015
C-O-C number	: ----	Date Analysis Commenced	: 09-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 16-Nov-2015
Site	: ----	No. of samples received	: 11
Quote number	: ----	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

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

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Alison Graham	Supervisor - Inorganic	Newcastle - Inorganics
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Greg Vogel	Laboratory Manager	Brisbane Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Raymond Commodore	Instrument Chemist	Sydney Inorganics

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 (Soils) (QC Lot: 271675)									
ES1535611-007	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.4	8.0	4.52	0% - 20%
ES1535499-001	MW202-12	EA002: pH Value	----	0.1	pH Unit	10.5	10.4	0.00	0% - 20%
EA010: Conductivity (QC Lot: 271676)									
ES1535611-007	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	611	594	2.82	0% - 20%
ES1535499-001	MW202-12	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	3400	3460	1.75	0% - 20%
EA055: Moisture Content (QC Lot: 272559)									
ES1535499-001	MW202-12	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	20.3	19.9	2.06	0% - 20%
ES1535546-007	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	18.4	18.1	1.29	0% - 50%
ED037: Alkalinity (QC Lot: 272247)									
ES1535499-001	MW202-12	ED037: Total Alkalinity as CaCO3	----	1	mg/kg	5580	5610	0.586	0% - 20%
ED040S: Soluble Major Anions (QC Lot: 271679)									
ES1535499-001	MW202-12	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	2210	2270	2.60	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 271678)									
ES1535499-001	MW202-12	ED045G: Chloride	16887-00-6	10	mg/kg	210	210	0.00	0% - 20%
ED093S: Soluble Major Cations (QC Lot: 271677)									
ES1535624-004	Anonymous	ED093S: Potassium	7440-09-7	10	mg/kg	780	780	0.00	0% - 20%
		ED093S: Sodium	7440-23-5	10	mg/kg	970	970	0.00	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 274504)									
ES1535499-001	MW202-12	EG005T: Aluminium	7429-90-5	50	mg/kg	7050	6960	1.30	0% - 20%
ES1535552-008	Anonymous	EG005T: Aluminium	7429-90-5	50	mg/kg	13400	13800	2.68	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 274505)									
ES1535499-001	MW202-12	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1535552-008	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 271357)									
ES1535344-001	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.00	No Limit
ES1535482-002	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.00	No Limit
EK040T: Fluoride Total (QC Lot: 275969)									
ES1535499-001	MW202-12	EK040T: Fluoride	16984-48-8	40	mg/kg	2880	2760	4.08	0% - 20%
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 270806)									
ES1535499-001	MW202-12	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 270808)									
ES1535499-001	MW202-12	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	0.6	0.6	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: 270808) - continued									
ES1535499-001	MW202-12	EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.9	1.1	24.5	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.9	6.2	24.3	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.4	8.2	24.7	0% - 50%
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	9.0	# 11.7	25.6	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	7.4	9.7	26.3	0% - 50%
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.8	6.0	22.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.7	3.2	16.3	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.8	6.0	22.7	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	1.0	36.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	10.2	12.4	19.5	0% - 20%
		EP075(SIM): Fluorene	86-73-7	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	3.4	4.6	29.5	No Limit
		EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.3	5.0	14.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	10.4	12.6	19.3	0% - 20%
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	61.5	# 76.6	21.9	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 270644)									
ES1535472-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1535578-005	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	16	46.8	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 270807)									
ES1535499-001	MW202-12	EP071: C15 - C28 Fraction	----	100	mg/kg	270	270	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	240	230	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: 270644)									
ES1535472-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1535578-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	11	19	56.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 270807)									
ES1535499-001	MW202-12	EP071: >C16 - C34 Fraction	----	100	mg/kg	470	450	3.36	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: 270644)									
ES1535472-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: 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: 270644) - continued									
ES1535472-001	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES1535578-005	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	0.6	0.7	21.8	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	2.4	3.0	21.9	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	0.7	<0.5	28.3	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Method Blank (MB) and Laboratory Control 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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA010: Conductivity (QCLot: 271676)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	100	70	130
ED037: Alkalinity (QCLot: 272247)								
ED037: Total Alkalinity as CaCO3	----	1	mg/kg	<1	200 mg/kg	104	87	112
ED040S: Soluble Major Anions (QCLot: 271679)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	95.6	80	120
ED045G: Chloride by Discrete Analyser (QCLot: 271678)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	96.6	75	125
				<10	5000 mg/kg	97.0	79	117
ED093S: Soluble Major Cations (QCLot: 271677)								
ED093S: Potassium	7440-09-7	10	mg/kg	<10	50 mg/kg	92.7	83	125
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	86.6	81	123
EG005T: Total Metals by ICP-AES (QCLot: 274504)								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	116	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 274505)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	77.7	70	105
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 271357)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	93.0	70	130
EK040T: Fluoride Total (QCLot: 275969)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	950 mg/kg	86.1	69	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 270806)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	107	62	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 270808)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	100	73	127
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	98.3	72	124
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	110	77	127
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	98.1	69	123
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	97.5	70	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	96.2	68	116
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	96.5	63	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	101	74	126
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	106	75	127
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	94.2	62	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 270808) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	92.7	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	99.4	72	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	96.3	61	121
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	107	77	125
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	110	75	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	93.3	74	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 270644)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	99.3	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 270807)								
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	113	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	103	71	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 270644)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	99.2	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 270807)								
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	116	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	93.8	63	131
EP080: BTEXN (QCLot: 270644)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	96.6	62	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	102	58	118
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	105	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	103	62	138
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	60	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	108	62	128

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
ED045G: Chloride by Discrete Analyser (QCLot: 271678)							
ES1535499-001	MW202-12	ED045G: Chloride	16887-00-6	1250 mg/kg	123	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 274505)							

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: 274505) - continued							
ES1535499-001	MW202-12	EG035T: Mercury	7439-97-6	5 mg/kg	96.1	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 271357)							
ES1535344-001	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	82.5	70	130
EK040T: Fluoride Total (QCLot: 275969)							
ES1535499-001	MW202-12	EK040T: Fluoride	16984-48-8	400 mg/kg	# Not Determined	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 270806)							
ES1535499-001	MW202-12	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	105	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 270808)							
ES1535499-001	MW202-12	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	79.0	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	96.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 270644)							
ES1535472-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	98.8	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 270807)							
ES1535499-001	MW202-12	EP071: C10 - C14 Fraction	----	523 mg/kg	93.2	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	105	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	125	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 270644)							
ES1535472-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	96.2	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 270807)							
ES1535499-001	MW202-12	EP071: >C10 - C16 Fraction	----	860 mg/kg	92.1	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	116	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	110	52	132
EP080: BTEXN (QCLot: 270644)							
ES1535472-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	76.0	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	91.8	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	91.0	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	80.5	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	92.4	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	89.7	70	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1535499**	Page	: 1 of 8
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Telephone	: +61-2-8784 8555
Project	: AS130456 CWS GW INSTALLATION	Date Samples Received	: 05-Nov-2015
Site	: ----	Issue Date	: 16-Nov-2015
Sampler	: MARK TIEDEMAN	No. of samples received	: 11
Order number	: ----	No. of samples analysed	: 3

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 Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1535499--001	MW202-12	**Benzo(a)pyrene TEQ (zero)**	----	25.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1535499--001	MW202-12	**Sum of polycyclic aromatic hydrocarbons**	----	21.9 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK040T: Fluoride Total	ES1535499--001	MW202-12	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
Total Metals by ICP-AES	0	20	0.00	5.00	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Analysis Holding Time Compliance

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
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved (EA002)							
MW202-12, MW202-13.5, QA101	**05-Nov-2015**	**11-Nov-2015**	12-Nov-2015	✓	**11-Nov-2015**	11-Nov-2015	✓
EA010: Conductivity							
Soil Glass Jar - Unpreserved (EA010)							
MW202-12, MW202-13.5, QA101	**05-Nov-2015**	**11-Nov-2015**	12-Nov-2015	✓	**11-Nov-2015**	09-Dec-2015	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**----**	----	----	**10-Nov-2015**	19-Nov-2015	✓
ED037: Alkalinity								
Soil Glass Jar - Unpreserved (ED037)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**16-Nov-2015**	03-May-2016	✓	**16-Nov-2015**	03-May-2016	✓
ED040S : Soluble Sulfate by ICPAES								
Soil Glass Jar - Unpreserved (ED040S)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**11-Nov-2015**	03-Dec-2015	✓	**11-Nov-2015**	09-Dec-2015	✓
ED045G: Chloride by Discrete Analyser								
Soil Glass Jar - Unpreserved (ED045G)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**11-Nov-2015**	03-Dec-2015	✓	**11-Nov-2015**	09-Dec-2015	✓
ED093S: Soluble Major Cations								
Soil Glass Jar - Unpreserved (ED093S)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**11-Nov-2015**	03-May-2016	✓	**11-Nov-2015**	03-May-2016	✓
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**12-Nov-2015**	03-May-2016	✓	**12-Nov-2015**	03-May-2016	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**12-Nov-2015**	03-Dec-2015	✓	**13-Nov-2015**	03-Dec-2015	✓
EK026SF: Total CN by Segmented Flow Analyser								
Soil Glass Jar - Unpreserved (EK026SF)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**09-Nov-2015**	19-Nov-2015	✓	**10-Nov-2015**	23-Nov-2015	✓
EK040T: Fluoride Total								
Pulp Bag (EK040T)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**09-Nov-2015**	03-Dec-2015	✓	**13-Nov-2015**	03-Dec-2015	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**11-Nov-2015**	19-Nov-2015	✓	**12-Nov-2015**	21-Dec-2015	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**11-Nov-2015**	19-Nov-2015	✓	**12-Nov-2015**	21-Dec-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**11-Nov-2015**	19-Nov-2015	✓	**12-Nov-2015**	21-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
MW202-12, QA101	MW202-13.5,	**05-Nov-2015**	**09-Nov-2015**	19-Nov-2015	✓	**09-Nov-2015**	19-Nov-2015	✓

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)							
Alkalinity in Soil	ED037	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	6	**16.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	6	**16.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	19	**10.53**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity in Soil	ED037	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	2	5	**40.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	6	**16.67**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	6	**16.67**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Alkalinity in Soil	ED037	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	6	**16.67**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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							
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	6	**16.67**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	6	**16.67**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	0	20	**0.00**	**5.00**	×	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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 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) (Method 103)
Electrical Conductivity (1:5)	EA010	SOIL	In house: Referenced to 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) (Method 104)
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Alkalinity in Soil	ED037	SOIL	In house: Referenced to APHA 2320 B Alkalinity is determined and reported on a 1:5 soil/water leach.
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 21st edition 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.
Cations - soluble by ICP-AES	ED093S	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010 (ICPAES) Water extracts of the soil are analyzed for major cations by ICPAES. 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 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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.

Analytical Methods	Method	Matrix	Method Descriptions
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) 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)
TRH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) 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	(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.

Preparation Methods	Method	Matrix	Method Descriptions
Total Fluoride	EK040T-PR	SOIL	(In-house) Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(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.

RAMBOLL ENVIRON

Chain of Custody & Analysis Request Form

Ramboll Environ
Level 2, Suite 19B, 50 Glebe Road
The Junction NSW 2291
Tel: 02 49625444
Email: mtiedeman@environcorp.com
Email: frobinson@environcorp.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277-289 Woodpark Road, Smithfield NSW
Contact Name:
Lab. Ref:
Tel: 02 8784 8555
Fax: 02 8784 8500
Final Report by:
Lab Quote No:

Project Name: CWS GW Installation **Project Number:** AS130456 **Purchase Order Number:**

Sample collected by: Mark Tiedeman **Sample Results to be returned to:** mtiedeman@environcorp.com; frobinson@environcorp.com

Environmental Division
Sydney
Work Order Reference
ES1535499

Telephone : +61-2-8784 8555

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days) STANDARD	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☑ Yes	☑ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☑ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: esdat / excel / pdf 8. Project Manager: Neil Woodridge tel:

Analysis Request

Lab. ID	Sample ID	Sampling Date	Sampling Time	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH/EC	Total Alkalinity	Sodium / Potassium / Chloride	Fluoride / Sulphate	Cyanide	Carbonate	Aluminium	PAH / TRH / BTEX / PCB	Mercury	HOLD
1	MW202_12	5/11										X	X	X	X	X	X	X	X	X	
2	MW202-12.5																				
3	MW202-13.0																				
4	MW202-13.5											X	X	X	X	X	X	X	X	X	
5	MW202-14.0																				
6	MW202-14.5																				
7	MW202-15.0																				
8	MW202-16																				
9	MW202-17																				
10	MW202-18	↓																			
11	QA101	↓										X	X	X	X	X	X	X	X	X	

☐ Courier ☐ Postal ☐ By Hand

Relinquished By:	**Received by:**	Received in good condition?	Yes/No/NA — Method of Shipment:
Mark Tiedeman Date: 5/11	Name: Mark Spencer Date: 5/11/15	Samples received chilled? 9C	Yes/No/NA — Consignment Note No.: ☐ Courier ☐ Postal ☐ By Hand
of: Ramboll Environ Time: 16:25	of: ALS Time: 4:25pm		Yes/No/NA — Transport Co:
Relinquished By:	**Received by:**	Received in good condition?	Yes/No/NA — Method of Shipment:
Name: Date:	Name: Frank Date: 5/11/15	Samples received chilled?	Yes/No/NA — Consignment Note No.:
of: Environment Time:	of: ALS Time: 1930		Yes/No/NA — Transport Co:

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1535624**	Page	: 1 of 6
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR NEIL WOODBRIDGE	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: nrwoodbridge@environcorp.com	E-mail	:
Telephone	: +61 02 99548114	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 06-Nov-2015 16:38
C-O-C number	: ----	Date Analysis Commenced	: 09-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 16-Nov-2015 17:16
Site	: ----		
		No. of samples received	: 7
Quote number	: ----	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Gerrad Morgan	Asbestos Identifier	Newcastle - Asbestos
Greg Vogel	Laboratory Manager	Brisbane Inorganics
Merrin Avery	Supervisor - Inorganic	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics

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.

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.

- **EP066 : Positive PCB result for sample #MW204_12.2 (ES1535624_2) is confirmed by re-extraction and re-analysis.**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- 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.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW204_4	MW204_12.2	MW204_14.0	----	----
			Client sampling date / time	[06-Nov-2015]	[06-Nov-2015]	[06-Nov-2015]	----	----
Compound	CAS Number	LOR	Unit	ES1535624-001	ES1535624-002	ES1535624-004	--------	--------
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	10.2	9.6	----	----
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	5250	547	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	----	20.0	11.0	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Sample weight (dry)	----	0.01	g	21.7	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	G.MORGAN	----	----	----	----
ED037: Alkalinity								
Total Alkalinity as CaCO3	----	1	mg/kg	----	853	7420	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/kg	----	591	5320	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/kg	----	262	2100	----	----
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	----	1250	200	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	10	mg/kg	----	1180	710	----	----
ED093S: Soluble Major Cations								
Sodium	7440-23-5	10	mg/kg	----	6940	970	----	----
Potassium	7440-09-7	10	mg/kg	----	1210	780	----	----
EG005T: Total Metals by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	----	14800	5080	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	<0.1	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	114	<1	----	----
EK040T: Fluoride Total								
Fluoride	16984-48-8	40	mg/kg	----	2290	110	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	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	MW204_4	MW204_12.2	MW204_14.0	----	----
				Client sampling date / time	[06-Nov-2015]	[06-Nov-2015]	[06-Nov-2015]	----	----
Compound	CAS Number	LOR	Unit		ES1535624-001	ES1535624-002	ES1535624-004	--------	--------
					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		----	**0.8**	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg		----	**4.2**	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg		----	**0.8**	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg		----	**8.4**	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg		----	**8.5**	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	**3.9**	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg		----	**4.0**	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	**5.6**	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	**1.9**	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	**4.9**	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	**2.7**	<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		----	**3.9**	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		----	**50.1**	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	**6.9**	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	**6.9**	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	**6.9**	**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	MW204_4	MW204_12.2	MW204_14.0	----	----
				Client sampling date / time	[06-Nov-2015]	[06-Nov-2015]	[06-Nov-2015]	----	----
Compound	CAS Number	LOR	Unit		ES1535624-001	ES1535624-002	ES1535624-004	--------	--------
					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	1330-20-7	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	%		----	**61.0**	**61.0**	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	**116**	**117**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	**98.6**	**99.1**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	**106**	**110**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	**97.1**	**96.6**	----	----
Anthracene-d10	1719-06-8	0.5	%		----	**107**	**109**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	**95.2**	**96.3**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	**107**	**97.2**	----	----
Toluene-D8	2037-26-5	0.2	%		----	**104**	**97.6**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	**90.4**	**85.7**	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	MW204_4 - [06-Nov-2015]	Mid grey soil with slag debris and several pieces of organic fibre matting,.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1535624**	Page	: 1 of 8
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR NEIL WOODBRIDGE	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: nrwoodbridge@environcorp.com	E-mail	:
Telephone	: +61 02 99548114	Telephone	: +61-2-8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 06-Nov-2015
C-O-C number	: ----	Date Analysis Commenced	: 09-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 16-Nov-2015
Site	: ----	No. of samples received	: 7
Quote number	: ----	No. of samples analysed	: 3

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

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

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Gerrad Morgan	Asbestos Identifier	Newcastle - Asbestos
Greg Vogel	Laboratory Manager	Brisbane Inorganics
Merrin Avery	Supervisor - Inorganic	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics

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 (Soils) (QC Lot: 271681)									
ES1535611-027	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.4	8.4	0.00	0% - 20%
ES1535611-047	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.1	8.2	0.00	0% - 20%
EA002 : pH (Soils) (QC Lot: 271682)									
ES1535624-004	MW204_14.0	EA002: pH Value	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
EA010: Conductivity (QC Lot: 271680)									
ES1535611-027	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	678	647	4.68	0% - 20%
ES1535611-047	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	700	673	3.93	0% - 20%
EA010: Conductivity (QC Lot: 271683)									
ES1535624-004	MW204_14.0	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	547	625	13.3	0% - 20%
EA055: Moisture Content (QC Lot: 272564)									
ES1535622-029	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	37.4	34.0	9.57	0% - 20%
ES1535639-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	44.0	44.3	0.462	0% - 20%
ED037: Alkalinity (QC Lot: 272247)									
ES1535499-001	Anonymous	ED037: Total Alkalinity as CaCO3	----	1	mg/kg	5580	5610	0.586	0% - 20%
ED040S: Soluble Major Anions (QC Lot: 271679)									
ES1535499-001	Anonymous	ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	2210	2270	2.60	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 271678)									
ES1535499-001	Anonymous	ED045G: Chloride	16887-00-6	10	mg/kg	210	210	0.00	0% - 20%
ED093S: Soluble Major Cations (QC Lot: 271677)									
ES1535624-004	MW204_14.0	ED093S: Potassium	7440-09-7	10	mg/kg	780	780	0.00	0% - 20%
		ED093S: Sodium	7440-23-5	10	mg/kg	970	970	0.00	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 273690)									
ES1535578-006	Anonymous	EG005T: Aluminium	7429-90-5	50	mg/kg	8540	8460	0.990	0% - 20%
ES1535867-001	Anonymous	EG005T: Aluminium	7429-90-5	50	mg/kg	4700	4710	0.242	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 273691)									
ES1535578-006	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.7	1.1	49.4	0% - 50%
ES1535867-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 271359)									
ES1535624-002	MW204_12.2	EK026SF: Total Cyanide	57-12-5	1	mg/kg	114	114	0.00	0% - 20%
ES1535707-002	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	35	33	4.66	0% - 20%
EK040T: Fluoride Total (QC Lot: 273654)									
ES1535466-001	Anonymous	EK040T: Fluoride	16984-48-8	40	mg/kg	70	80	13.8	No Limit
ES1535482-008	Anonymous	EK040T: Fluoride	16984-48-8	40	mg/kg	60	70	19.5	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 (%)*
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 270806)									
ES1535499-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 270808)									
ES1535499-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	0.6	0.6	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.9	1.1	24.5	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	4.9	6.2	24.3	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.4	8.2	24.7	0% - 50%
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	9.0	# 11.7	25.6	0% - 20%
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	7.4	9.7	26.3	0% - 50%
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	4.8	6.0	22.0	0% - 50%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.7	3.2	16.3	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	4.8	6.0	22.7	0% - 50%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	0.7	1.0	36.4	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	10.2	12.4	19.5	0% - 20%
		EP075(SIM): Fluorene	86-73-7	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	3.4	4.6	29.5	No Limit
		EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	4.3	5.0	14.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	10.4	12.6	19.3	0% - 20%
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	61.5	# 76.6	21.9	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 270807)									
ES1535499-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	270	270	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	240	230	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 270974)									
ES1535546-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1535546-009	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 270807)									
ES1535499-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	470	450	3.36	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: 270974)									
ES1535546-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1535546-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 270974)									
ES1535546-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEXN (QC Lot: 270974) - continued									
ES1535546-001	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	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
ES1535546-009	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Method Blank (MB) and Laboratory Control 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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA010: Conductivity (QCLot: 271680)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	101	70	130
EA010: Conductivity (QCLot: 271683)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	100	70	130
ED037: Alkalinity (QCLot: 272247)								
ED037: Total Alkalinity as CaCO3	----	1	mg/kg	<1	200 mg/kg	104	87	112
ED040S: Soluble Major Anions (QCLot: 271679)								
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	150 mg/kg	95.6	80	120
ED045G: Chloride by Discrete Analyser (QCLot: 271678)								
ED045G: Chloride	16887-00-6	10	mg/kg	<10	50 mg/kg	96.6	75	125
				<10	5000 mg/kg	97.0	79	117
ED093S: Soluble Major Cations (QCLot: 271677)								
ED093S: Potassium	7440-09-7	10	mg/kg	<10	50 mg/kg	92.7	83	125
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	86.6	81	123
EG005T: Total Metals by ICP-AES (QCLot: 273690)								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	123	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 273691)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	75.9	70	105
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 271359)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	92.6	70	130
EK040T: Fluoride Total (QCLot: 273654)								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	950 mg/kg	84.9	69	107
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 270806)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	107	62	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 270808)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	100	73	127
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	98.3	72	124
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	110	77	127
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	98.1	69	123
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	97.5	70	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	96.2	68	116
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	96.5	63	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	101	74	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 270808) - continued								
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	106	75	127
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	94.2	62	118
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	92.7	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	99.4	72	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	96.3	61	121
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	107	77	125
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	110	75	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	93.3	74	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 270807)								
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	113	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	103	71	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 270974)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	97.2	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 270807)								
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	116	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	93.8	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 270974)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	95.2	68	128
EP080: BTEXN (QCLot: 270974)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.3	62	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	80.7	58	118
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	84.8	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	89.8	62	138
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	82.8	60	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	90.8	62	128

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
ED045G: Chloride by Discrete Analyser (QCLot: 271678)							
ES1535499-001	Anonymous	ED045G: Chloride	16887-00-6	1250 mg/kg	123	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*
EG035T: Total Recoverable Mercury by FIMS (QCLot: 273691)							
ES1535578-007	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	96.8	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 271359)							
ES1535624-002	MW204_12.2	EK026SF: Total Cyanide	57-12-5	20 mg/kg	# Not Determined	70	130
EK040T: Fluoride Total (QCLot: 273654)							
ES1535466-001	Anonymous	EK040T: Fluoride	16984-48-8	400 mg/kg	97.5	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 270806)							
ES1535499-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	105	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 270808)							
ES1535499-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	79.0	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	96.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 270807)							
ES1535499-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	93.2	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	105	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	125	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 270974)							
ES1535546-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	80.9	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 270807)							
ES1535499-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	92.1	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	116	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	110	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 270974)							
ES1535546-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.9	70	130
EP080: BTEXN (QCLot: 270974)							
ES1535546-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	77.4	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	86.9	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	79.5	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	83.4	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	85.6	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	79.2	70	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1535624**	Page	: 1 of 7
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR NEIL WOODBRIDGE	Telephone	: +61-2-8784 8555
Project	: AS130456 CWS GW INSTALLATION	Date Samples Received	: 06-Nov-2015
Site	: ----	Issue Date	: 16-Nov-2015
Sampler	: MARK TIEDEMAN	No. of samples received	: 7
Order number	: ----	No. of samples analysed	: 3

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 Laboratory Control outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1535499--001	Anonymous	**Benzo(a)pyrene TEQ (zero)**	----	25.6 %	0% - 20%	**RPD exceeds LOR based limits**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1535499--001	Anonymous	**Sum of polycyclic aromatic hydrocarbons**	----	21.9 %	0% - 20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK026SF: Total CN by Segmented Flow Analyser	ES1535624--002	MW204_12.2	**Total Cyanide**	57-12-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
Total Metals by ICP-AES	0	2	0.00	5.00	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Analysis Holding Time Compliance

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
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved (EA002)							
MW204_12.2, MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	13-Nov-2015	✓	**11-Nov-2015**	11-Nov-2015	✓
EA010: Conductivity							
Soil Glass Jar - Unpreserved (EA010)							
MW204_12.2, MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	13-Nov-2015	✓	**11-Nov-2015**	09-Dec-2015	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
MW204_12.2, MW204_14.0	**06-Nov-2015**	**----**	----	----	**10-Nov-2015**	20-Nov-2015	✓

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
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Separate bag received (EA200)								
MW204_4		**06-Nov-2015**	**----**	----	----	**10-Nov-2015**	04-May-2016	✓
ED037: Alkalinity								
Soil Glass Jar - Unpreserved (ED037)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**16-Nov-2015**	04-May-2016	✓	**16-Nov-2015**	04-May-2016	✓
ED040S : Soluble Sulfate by ICPAES								
Soil Glass Jar - Unpreserved (ED040S)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	04-Dec-2015	✓	**11-Nov-2015**	09-Dec-2015	✓
ED045G: Chloride by Discrete Analyser								
Soil Glass Jar - Unpreserved (ED045G)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	04-Dec-2015	✓	**11-Nov-2015**	09-Dec-2015	✓
ED093S: Soluble Major Cations								
Soil Glass Jar - Unpreserved (ED093S)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	04-May-2016	✓	**11-Nov-2015**	04-May-2016	✓
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	04-May-2016	✓	**12-Nov-2015**	04-May-2016	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	04-Dec-2015	✓	**12-Nov-2015**	04-Dec-2015	✓
EK026SF: Total CN by Segmented Flow Analyser								
Soil Glass Jar - Unpreserved (EK026SF)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**09-Nov-2015**	20-Nov-2015	✓	**10-Nov-2015**	23-Nov-2015	✓
EK040T: Fluoride Total								
Pulp Bag (EK040T)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**09-Nov-2015**	04-Dec-2015	✓	**11-Nov-2015**	04-Dec-2015	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	20-Nov-2015	✓	**12-Nov-2015**	21-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	20-Nov-2015	✓	**12-Nov-2015**	21-Dec-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**11-Nov-2015**	20-Nov-2015	✓	**12-Nov-2015**	21-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
MW204_12.2,	MW204_14.0	**06-Nov-2015**	**10-Nov-2015**	20-Nov-2015	✓	**10-Nov-2015**	20-Nov-2015	✓

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)							
Alkalinity in Soil	ED037	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	6	**16.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	2	12	**16.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	2	14	**14.29**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	2	**100.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	16	**12.50**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Alkalinity in Soil	ED037	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	2	5	**40.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	6	**16.67**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	2	12	**16.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	2	**50.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	16	**6.25**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Alkalinity in Soil	ED037	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Cations - soluble by ICP-AES	ED093S	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Chloride Soluble By Discrete Analyser	ED045G	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Electrical Conductivity (1:5)	EA010	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Major Anions - Soluble	ED040S	1	6	**16.67**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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							
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	12	**8.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	2	**50.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	16	**6.25**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Cyanide by Segmented Flow Analyser	EK026SF	1	12	**8.33**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fluoride	EK040T	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	0	2	**0.00**	**5.00**	×	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	5	**20.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	16	**6.25**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

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 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) (Method 103)
Electrical Conductivity (1:5)	EA010	SOIL	In house: Referenced to 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) (Method 104)
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Alkalinity in Soil	ED037	SOIL	In house: Referenced to APHA 2320 B Alkalinity is determined and reported on a 1:5 soil/water leach.
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 21st edition 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.
Cations - soluble by ICP-AES	ED093S	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010 (ICPAES) Water extracts of the soil are analyzed for major cations by ICPAES. 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 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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.

Analytical Methods	Method	Matrix	Method Descriptions
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) 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)
TRH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) 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	(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.

Preparation Methods	Method	Matrix	Method Descriptions
Total Fluoride	EK040T-PR	SOIL	(In-house) Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(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.

Page: ___ of 1

RAMBOLL ENVIRON

Chain of Custody & Analysis Request Form

Ramboll Environ
Level 2, Suite 19B, 50 Glebe Road
The Junction NSW 2291

Tel: 02 49625444
Email: mtiedeman@environcorp.com
Email: frobinson@environcorp.com

Laboratory Details

Lab. Name: ALS
Lab. Address: 277-289 Woodpark Road, Smithfield NSW
Contact Name:
Lab. Ref:

Tel: 02 8784 8555
Fax: 02 8784 8500
Final Report by:
Lab Quote No:

Project Name: CWS GW Installation **Project Number:** AS130456 **Purchase Order Number:**

Sample collected by: Mark Tiedeman **Sample Results to be returned to:** mtiedeman@environcorp.com; frobinson@environcorp.com

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days) STANDARD	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☑ Yes	☑ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☑ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A
7. Report Format: esdat / excel / pdf	8. Project Manager: Neil Woodridge		tel:

Analysis Request

Lab. ID	Sample ID	Sampling Date	Sampling Time	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH/EC	Total Alkalinity	Sodium / Potassium / Chloride	Fluoride / Sulphate	Cyanide	Carbonate	Aluminium	PAH / TRH / BTEX / PCB	Mercury	Asbestos					HOLD	Remarks & comments
1	MW204-4	6/11/15				X					1										X						
2	MW204-12.2	↓		X								X	X	X	X	X	X	X	X	X							
3	MW204-13.0			X								X	X	X	X	X	X	X	X	X							
4	MW204-14.0			X								X	X	X	X	X	X	X	X	X							
5	MW204-15.0			X								X	X	X	X	X	X	X	X	X							
6	MW204-16.5			X								X	X	X	X	X	X	X	X	X							
7	MW204-8.0	↓		X								X	X	X	X	X	X	X	X	X							

E-MAILED

Environmental Division
Sydney
Work Order Reference
ES1535624

Telephone : +61-2-8784 8555

☐ Courier ☐ Postal ☐ By Hand

Relinquished By:	Received by:		
Mark Tiedeman	Name: MS	Date: 6/11/15	Received in good condition? Yes/No/NA
of: Ramboll Environ	of: ALS	Time: 4:38pm	Samples received chilled? Yes/No/NA — 3C
Relinquished By:	Received by:		Consignment Note No.
Name:	Name: Wanda	Date: 06/11/15	Transport Co:
of: Environment	of:	Time: 0745	Method of Shipment: ☐ Courier ☐ Postal ☐ By Hand

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Page 1 of 1

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1535970**	Page	: 1 of 8
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@environcorp.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 12-Nov-2015 13:00
C-O-C number	: ----	Date Analysis Commenced	: 16-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 19-Nov-2015 17:57
Site	: ----		
		No. of samples received	: 6
Quote number	: ----	No. of samples analysed	: 6

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dian Dao		Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics

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.

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.

- Positive results for sample ES1515970 #5 have been confirmed by reanalysis.
- EP075(SIM): Surrogate recovery bias low due to sample matrix interferences.
- 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.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW202_20151111	MW204_20151111	MW206_20151111	QA101	QA201
				Client sampling date / time	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]
Compound	CAS Number	LOR	Unit		ES1535970-001	ES1535970-002	ES1535970-003	ES1535970-004	ES1535970-005
					Result	Result	Result	Result	Result
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	----	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		26700	----	24700	26200	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		727	----	242	727	<1
Total Alkalinity as CaCO3	----	1	mg/L		27400	----	25000	26900	<1
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		1250	----	9000	9460	<1
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		568	----	522	553	<1
ED093F: Dissolved Major Cations									
Sodium	7440-23-5	1	mg/L		8300	----	16700	17400	<1
Potassium	7440-09-7	1	mg/L		13	----	68	73	<1
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		0.20	0.79	2.41	2.86	0.04
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	<0.0001	<0.0001	<0.0001
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		7.81	227	223	207	<0.004
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		1880	1380	1640	1720	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	<1	<1	<1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		1.4	----	30.2	38.8	<1.0
Acenaphthylene	208-96-8	1	µg/L		<1.0	----	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		<1.0	----	3.5	3.5	<1.0
Fluorene	86-73-7	1	µg/L		<1.0	----	2.1	1.8	<1.0
Phenanthrene	85-01-8	1	µg/L		<1.0	----	6.0	4.3	<1.0
Anthracene	120-12-7	1	µg/L		<1.0	----	2.7	2.2	<1.0
Fluoranthene	206-44-0	1	µg/L		<1.0	----	8.8	5.3	<1.0
Pyrene	129-00-0	1	µg/L		1.0	----	8.7	5.2	<1.0
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	----	9.2	4.4	<1.0
Chrysene	218-01-9	1	µg/L		<1.0	----	8.4	3.9	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	----	12.3	5.4	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	----	3.9	2.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW202_20151111	MW204_20151111	MW206_20151111	QA101	QA201
				Client sampling date / time	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]
Compound	CAS Number	LOR	Unit		ES1535970-001	ES1535970-002	ES1535970-003	ES1535970-004	ES1535970-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	9.6	4.1	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	----	7.0	2.8	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	----	1.7	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	----	8.2	3.2	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		2.4	----	122	86.9	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	----	14.7	5.6	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		110	----	330	310	<20
C10 - C14 Fraction	----	50	µg/L		<50	----	200	200	<50
C15 - C28 Fraction	----	100	µg/L		<100	----	540	530	<100
C29 - C36 Fraction	----	50	µg/L		120	----	100	90	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L		120	----	840	820	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		120	----	330	310	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		90	----	320	300	<20
>C10 - C16 Fraction	----	100	µg/L		<100	----	330	310	<100
>C16 - C34 Fraction	----	100	µg/L		460	----	540	460	<100
>C34 - C40 Fraction	----	100	µg/L		140	----	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		600	----	870	770	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	----	280	250	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		23	----	3	3	<1
Toluene	108-88-3	2	µg/L		6	----	4	5	<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	----	3	4	<2
ortho-Xylene	95-47-6	2	µg/L		<2	----	<2	<2	<2
^ Total Xylenes	1330-20-7	2	µg/L		<2	----	3	4	<2
^ Sum of BTEX	----	1	µg/L		29	----	10	12	<1
Naphthalene	91-20-3	5	µg/L		<5	----	48	58	<5
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		60.7	----	70.6	73.1	75.5
EP075(SIM)S: Phenolic Compound Surrogates									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW202_20151111	MW204_20151111	MW206_20151111	QA101	QA201
				Client sampling date / time	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]
Compound	CAS Number	LOR	Unit		ES1535970-001	ES1535970-002	ES1535970-003	ES1535970-004	ES1535970-005
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
Phenol-d6	13127-88-3	1	%		23.8	----	15.0	15.7	25.6
2-Chlorophenol-D4	93951-73-6	1	%		33.5	----	20.1	19.0	46.6
2.4.6-Tribromophenol	118-79-6	1	%		35.9	----	13.9	14.1	31.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		53.9	----	69.6	69.4	67.1
Anthracene-d10	1719-06-8	1	%		57.9	----	75.2	78.8	76.2
4-Terphenyl-d14	1718-51-0	1	%		56.4	----	91.8	92.0	74.7
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		93.1	----	87.9	83.6	102
Toluene-D8	2037-26-5	2	%		112	----	114	117	103
4-Bromofluorobenzene	460-00-4	2	%		101	----	96.9	96.8	103

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW203_20151111	----	----	----	----
				Client sampling date / time	[11-Nov-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1535970-006	--------	--------	--------	--------
					Result	Result	Result	Result	Result
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		----	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		----	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		----	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		----	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		----	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		----	----	----	----	----
ED093F: Dissolved Major Cations									
Sodium	7440-23-5	1	mg/L		----	----	----	----	----
Potassium	7440-09-7	1	mg/L		----	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		----	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		----	----	----	----	----
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**0.2**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		----	----	----	----	----
Acenaphthylene	208-96-8	1	µg/L		----	----	----	----	----
Acenaphthene	83-32-9	1	µg/L		----	----	----	----	----
Fluorene	86-73-7	1	µg/L		----	----	----	----	----
Phenanthrene	85-01-8	1	µg/L		----	----	----	----	----
Anthracene	120-12-7	1	µg/L		----	----	----	----	----
Fluoranthene	206-44-0	1	µg/L		----	----	----	----	----
Pyrene	129-00-0	1	µg/L		----	----	----	----	----
Benz(a)anthracene	56-55-3	1	µg/L		----	----	----	----	----
Chrysene	218-01-9	1	µg/L		----	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1	µg/L		----	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	MW203_20151111	----	----	----	----
			Client sampling date / time	[11-Nov-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1535970-006	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	----	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1	µg/L	----	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1	µg/L	----	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	----	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	----	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	----	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	----	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	----	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	----	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	----	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	----	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L	----	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	----	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	----	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	----	----	----	----	----
Toluene	108-88-3	2	µg/L	----	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	----	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	----	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	----	----	----	----	----
^ Total Xylenes	1330-20-7	2	µg/L	----	----	----	----	----
^ Sum of BTEX	----	1	µg/L	----	----	----	----	----
Naphthalene	91-20-3	5	µg/L	----	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	1	%	----	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW203_20151111	----	----	----	----
				Client sampling date / time	[11-Nov-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1535970-006	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
Phenol-d6	13127-88-3	1	%		----	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1	%		----	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1	%		----	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		----	----	----	----	----
Anthracene-d10	1719-06-8	1	%		----	----	----	----	----
4-Terphenyl-d14	1718-51-0	1	%		----	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		----	----	----	----	----
Toluene-D8	2037-26-5	2	%		----	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		----	----	----	----	----

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1535970**	Page	: 1 of 7
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@environcorp.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 12-Nov-2015
C-O-C number	: ----	Date Analysis Commenced	: 16-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 19-Nov-2015
Site	: ----	No. of samples received	: 6
Quote number	: ----	No. of samples analysed	: 6

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

NATA WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dian Dao		Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics

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: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
ED037P: Alkalinity by PC Titrator (QC Lot: 279144)									
ES1535970-001	MW202_20151111	ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	26700	26700	0.00	0% - 20%
		ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	27400	27200	0.887	0% - 20%
ES1536079-001	Anonymous	ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	486	499	2.65	0% - 20%
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	183	187	2.32	0% - 20%
		ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	669	686	2.56	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 279139)									
ES1535970-001	MW202_20151111	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	1250	1530	19.6	0% - 20%
ES1536162-007	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	<1	0.00	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 279140)									
ES1535970-001	MW202_20151111	ED045G: Chloride	16887-00-6	1	mg/L	568	559	1.56	0% - 20%
ES1536162-007	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	13	12	0.00	0% - 50%
ED093F: Dissolved Major Cations (QC Lot: 278422)									
ES1535970-005	QA201	ED093F: Potassium	7440-09-7	1	mg/L	<1	<1	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	<1	<1	0.00	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 278424)									
ES1536006-006	Anonymous	EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	0.00	No Limit
ES1535970-005	QA201	EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.04	0.04	0.00	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 278423)									
ES1535970-005	QA201	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 278622)									
ES1536278-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.00	No Limit
EK040P: Fluoride by PC Titrator (QC Lot: 279143)									
ES1535970-001	MW202_20151111	EK040P: Fluoride	16984-48-8	0.1	mg/L	1880	1860	1.07	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 278546)									
EN1513881-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
ES1535970-004	QA101	EP080: C6 - C9 Fraction	----	20	µg/L	310	300	0.00	0% - 50%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 278546)									
EN1513881-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
ES1535970-004	QA101	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	310	300	0.00	0% - 50%
EP080: BTEXN (QC Lot: 278546)									
EN1513881-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	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: BTEXN (QC Lot: 278546) - continued									
EN1513881-001	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
ES1535970-004	QA101	EP080: Benzene	71-43-2	1	µg/L	3	3	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	4	4	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	5	5	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	58	61	4.14	0% - 50%

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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED037P: Alkalinity by PC Titrator (QCLot: 279144)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	90.7	81	111
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 279139)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	101	82	122
ED045G: Chloride by Discrete Analyser (QCLot: 279140)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	92.2	75	123
				<1	1000 mg/L	90.3	78	128
ED093F: Dissolved Major Cations (QCLot: 278422)								
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	97.0	85	113
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	96.2	82	120
EG020F: Dissolved Metals by ICP-MS (QCLot: 278424)								
EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	94.8	80	116
EG035F: Dissolved Mercury by FIMS (QCLot: 278423)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	96.0	83	105
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 278622)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	111	73	133
EK040P: Fluoride by PC Titrator (QCLot: 279143)								
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	5 mg/L	103	82	116
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 276881)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	84.0	62	107
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 276879)								
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	64.8	62	113
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	65.8	64	114
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	71.8	64	116
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	64.9	64	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	68.9	63	117
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	1	µg/L	<1.0	5 µg/L	63.6	62	119
	205-82-3							
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	67.5	59	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	65.4	63	115
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	70.8	63	116
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	69.4	61	117
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	72.5	64	118
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.7	64	115

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 276879) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	72.0	60	118
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	73.5	50	94
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	70.0	63	116
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.9	63	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 276880)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	102	76	116
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	91.7	83	109
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	87.0	75	113
EP080/071: Total Petroleum Hydrocarbons (QCLot: 278546)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	110	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 276880)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	2500 µg/L	98.2	76	114
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	96.5	81	111
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1500 µg/L	95.7	77	119
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 278546)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	114	75	127
EP080: BTEXN (QCLot: 278546)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	108	70	122
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	108	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	109	69	121
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	93.9	70	120
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	107	72	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	106	69	123

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: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
				Concentration	MS	Low	High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 279139)							
ES1535970-001	MW202_20151111	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	10 mg/L	# Not Determined	70	130
ED045G: Chloride by Discrete Analyser (QCLot: 279140)							
ES1535970-001	MW202_20151111	ED045G: Chloride	16887-00-6	250 mg/L	88.4	70	130

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*
EG035F: Dissolved Mercury by FIMS (QCLot: 278423)							
ME1510759-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	92.9	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 278622)							
ES1536278-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	120	70	130
EK040P: Fluoride by PC Titrator (QCLot: 279143)							
ES1535970-001	MW202_20151111	EK040P: Fluoride	16984-48-8	5 mg/L	# Not Determined	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 278546)							
EN1513881-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	128	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 278546)							
EN1513881-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	127	70	130
EP080: BTEXN (QCLot: 278546)							
EN1513881-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	94.8	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	106	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	105	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	88.7	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	104	70	130
		EP080: Toluene	108-88-3	25 µg/L	96.9	70	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1535970**	Page	: 1 of 8
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Telephone	: +61-2-8784 8555
Project	: AS130456 CWS GW INSTALLATION	Date Samples Received	: 12-Nov-2015
Site	: ----	Issue Date	: 19-Nov-2015
Sampler	: MARK TIEDEMAN	No. of samples received	: 6
Order number	: ----	No. of samples analysed	: 6

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.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA	ES1535970--001	MW202_20151111	**Sulfate as SO4 - Turbidimetric**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK040P: Fluoride by PC Titrator	ES1535970--001	MW202_20151111	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)S: Phenolic Compound Surrogates	ES1535970-003	MW206_20151111	**2.4.6-Tribromophenol**	118-79-6	13.9 %	17-125 %	**Recovery less than lower data quality objective**
EP075(SIM)S: Phenolic Compound Surrogates	ES1535970-004	QA101	**2.4.6-Tribromophenol**	118-79-6	14.1 %	17-125 %	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Dissolved Metals by ICP-MS - Suite A	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

Matrix: **WATER**

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
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	25-Nov-2015	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-Dec-2015	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-Dec-2015	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Nitric Acid; Filtered (ED093F)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-Dec-2015	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Natural (EG020A-F)							
MW204_20151111	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-May-2016	✓
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-May-2016	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**17-Nov-2015**	09-Dec-2015	✓
EK026SF: Total CN by Segmented Flow Analyser							
White Plastic Bottle-NaOH (EK026SF)							
MW202_20151111, MW204_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	25-Nov-2015	✓
EK040P: Fluoride by PC Titrator							
Clear Plastic Bottle - Natural (EK040P)							
MW202_20151111, MW204_20151111, MW206_20151111, QA101, QA201, MW203_20151111	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-Dec-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**17-Nov-2015**	18-Nov-2015	✓	**18-Nov-2015**	27-Dec-2015	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**17-Nov-2015**	18-Nov-2015	✓	**18-Nov-2015**	27-Dec-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**17-Nov-2015**	18-Nov-2015	✓	**18-Nov-2015**	27-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**16-Nov-2015**	25-Nov-2015	✓	**16-Nov-2015**	25-Nov-2015	✓

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: **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)							
Alkalinity by PC Titrator	ED037-P	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	8	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**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*	
Method Blanks (MB) - Continued							
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	0	10	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM (2013) Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM (2013) Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.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 APHA 21st edition seal method 2 017-1-L april 2003
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM (2013) Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM (2013) Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM (2013) Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN O. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500 F--C CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample 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)
TRH - Semivolatile Fraction	EP071	WATER	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)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	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)

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES1535970**

Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@environcorp.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	Page	: 1 of 3
Order number	: ----	Quote number	: ES2015ENVIAUS0373 (EN/072/15)
C-O-C number	: ----	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
Sampler	: MARK TIEDEMAN		

Dates

Date Samples Received	: 12-Nov-2015 1:00 PM	Issue Date	: 13-Nov-2015
Client Requested Due Date	: 19-Nov-2015	Scheduled Reporting Date	: **19-Nov-2015**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 4.3 - Ice present
Receipt Detail	:	No. of samples received / analysed	: 6 / 6

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

Method Client sample ID	Sample Container Received	Preferred Sample Container for Analysis
Dissolved Metals by ICP-MS - Suite A : EG020A-F		
MW204_20151111	- Clear Plastic Bottle - Natural	- Clear Plastic Bottle - Nitric Acid; Filtered

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - ED093F + EA006 + EA065 Dissolved Major Cations + SAR + Hardness	WATER - EG020F Dissolved Metals by ICPMS	WATER - EG035F Dissolved Mercury by FIMS	WATER - EK026SF Total Cyanide by Segmented Flow Analyser	WATER - EP066-PCB-WA Polychlorinated Biphenyls (PCB)	WATER - NT-02A Major Anions (Chloride, Sulphate, Fluoride,	WATER - W-07 TRH/BTEXN/PAH
ES1535970-001	[11-Nov-2015]	MW202_20151111	✓	✓	✓	✓	✓	✓	✓
ES1535970-002	[11-Nov-2015]	MW204_20151111		✓		✓			
ES1535970-003	[11-Nov-2015]	MW206_20151111	✓	✓	✓	✓	✓	✓	✓
ES1535970-004	[11-Nov-2015]	QA101	✓	✓	✓	✓	✓	✓	✓
ES1535970-005	[11-Nov-2015]	QA201	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - EK040-P Fluoride(PC)
ES1535970-002	[11-Nov-2015]	MW204_20151111	✓
ES1535970-006	[11-Nov-2015]	MW203_20151111	✓

Proactive Holding Time Report

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

Requested Deliverables

Cindy Suen

- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	cindy.suen@alsglobal.com
- Chain of Custody (CoC) (COC)	Email	cindy.suen@alsglobal.com

FIONA ROBINSON

- *AU Certificate of Analysis - NATA (COA)	Email	frobinson@environcorp.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	frobinson@environcorp.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	frobinson@environcorp.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	frobinson@environcorp.com.au
- A4 - AU Tax Invoice (INV)	Email	frobinson@environcorp.com.au
- Chain of Custody (CoC) (COC)	Email	frobinson@environcorp.com.au
- EDI Format - ENMRG (ENMRG)	Email	frobinson@environcorp.com.au
- EDI Format - ESDAT (ESDAT)	Email	frobinson@environcorp.com.au

MARK TIEDEMAN

- *AU Certificate of Analysis - NATA (COA)	Email	mtiedeman@environcorp.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mtiedeman@environcorp.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	mtiedeman@environcorp.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mtiedeman@environcorp.com
- A4 - AU Tax Invoice (INV)	Email	mtiedeman@environcorp.com
- Chain of Custody (CoC) (COC)	Email	mtiedeman@environcorp.com
- EDI Format - ENMRG (ENMRG)	Email	mtiedeman@environcorp.com
- EDI Format - ESDAT (ESDAT)	Email	mtiedeman@environcorp.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1535970**	Page	: 1 of 8
Amendment	: **1**		
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@environcorp.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 12-Nov-2015 13:00
C-O-C number	: ----	Date Analysis Commenced	: 16-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 24-Nov-2015 09:40
Site	: ----		
		No. of samples received	: 6
Quote number	: ----	No. of samples analysed	: 6

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dian Dao		Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics

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.

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.

- Positive results for sample ES1515970 #5 have been confirmed by reanalysis.
- EK025SF:LOR raised for Free Cyanide Analysis on various samples due to sample matrix.
- EP075(SIM): Surrogate recovery bias low due to sample matrix interferences.
- This report has been amended and re-released to allow the reporting of additional analytical data.
- 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.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	MW202_20151111	MW204_20151111	MW206_20151111	QA101	QA201
			Client sampling date / time	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]
Compound	CAS Number	LOR	Unit	ES1535970-001	ES1535970-002	ES1535970-003	ES1535970-004	ES1535970-005
				Result	Result	Result	Result	Result
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	**26700**	----	**24700**	**26200**	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**727**	----	**242**	**727**	<1
Total Alkalinity as CaCO3	----	1	mg/L	**27400**	----	**25000**	**26900**	<1
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**1250**	----	**9000**	**9460**	<1
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**568**	----	**522**	**553**	<1
ED093F: Dissolved Major Cations								
Sodium	7440-23-5	1	mg/L	**8300**	----	**16700**	**17400**	<1
Potassium	7440-09-7	1	mg/L	**13**	----	**68**	**73**	<1
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	**0.20**	**0.79**	**2.41**	**2.86**	**0.04**
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	<0.0001	<0.0001	<0.0001
EK025SF: Free CN by Segmented Flow Analyser								
Free Cyanide	----	0.004	mg/L	<0.040	<0.400	<0.400	<0.400	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	0.004	mg/L	**7.81**	**227**	**223**	**207**	<0.004
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	**1880**	**1380**	**1640**	**1720**	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	1	µg/L	<1	----	<1	<1	<1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1	µg/L	**1.4**	----	**30.2**	**38.8**	<1.0
Acenaphthylene	208-96-8	1	µg/L	<1.0	----	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L	<1.0	----	**3.5**	**3.5**	<1.0
Fluorene	86-73-7	1	µg/L	<1.0	----	**2.1**	**1.8**	<1.0
Phenanthrene	85-01-8	1	µg/L	<1.0	----	**6.0**	**4.3**	<1.0
Anthracene	120-12-7	1	µg/L	<1.0	----	**2.7**	**2.2**	<1.0
Fluoranthene	206-44-0	1	µg/L	<1.0	----	**8.8**	**5.3**	<1.0
Pyrene	129-00-0	1	µg/L	**1.0**	----	**8.7**	**5.2**	<1.0
Benz(a)anthracene	56-55-3	1	µg/L	<1.0	----	**9.2**	**4.4**	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW202_20151111	MW204_20151111	MW206_20151111	QA101	QA201
				Client sampling date / time	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]
Compound	CAS Number	LOR	Unit		ES1535970-001	ES1535970-002	ES1535970-003	ES1535970-004	ES1535970-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	1	µg/L		<1.0	----	8.4	3.9	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	----	12.3	5.4	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	----	3.9	2.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	9.6	4.1	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	----	7.0	2.8	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	----	1.7	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	----	8.2	3.2	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		2.4	----	122	86.9	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	----	14.7	5.6	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		110	----	330	310	<20
C10 - C14 Fraction	----	50	µg/L		<50	----	200	200	<50
C15 - C28 Fraction	----	100	µg/L		<100	----	540	530	<100
C29 - C36 Fraction	----	50	µg/L		120	----	100	90	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L		120	----	840	820	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		120	----	330	310	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		90	----	320	300	<20
>C10 - C16 Fraction	----	100	µg/L		<100	----	330	310	<100
>C16 - C34 Fraction	----	100	µg/L		460	----	540	460	<100
>C34 - C40 Fraction	----	100	µg/L		140	----	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		600	----	870	770	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	----	280	250	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		23	----	3	3	<1
Toluene	108-88-3	2	µg/L		6	----	4	5	<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	----	3	4	<2
ortho-Xylene	95-47-6	2	µg/L		<2	----	<2	<2	<2
^ Total Xylenes	1330-20-7	2	µg/L		<2	----	3	4	<2
^ Sum of BTEX	----	1	µg/L		29	----	10	12	<1
Naphthalene	91-20-3	5	µg/L		<5	----	48	58	<5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW202_20151111	MW204_20151111	MW206_20151111	QA101	QA201
				Client sampling date / time	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]	[11-Nov-2015]
Compound	CAS Number	LOR	Unit		ES1535970-001	ES1535970-002	ES1535970-003	ES1535970-004	ES1535970-005
					Result	Result	Result	Result	Result
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		60.7	----	70.6	73.1	75.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		23.8	----	15.0	15.7	25.6
2-Chlorophenol-D4	93951-73-6	1	%		33.5	----	20.1	19.0	46.6
2.4.6-Tribromophenol	118-79-6	1	%		35.9	----	13.9	14.1	31.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		53.9	----	69.6	69.4	67.1
Anthracene-d10	1719-06-8	1	%		57.9	----	75.2	78.8	76.2
4-Terphenyl-d14	1718-51-0	1	%		56.4	----	91.8	92.0	74.7
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		93.1	----	87.9	83.6	102
Toluene-D8	2037-26-5	2	%		112	----	114	117	103
4-Bromofluorobenzene	460-00-4	2	%		101	----	96.9	96.8	103

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW203_20151111	----	----	----	----
				Client sampling date / time	[11-Nov-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1535970-006	--------	--------	--------	--------
					Result	Result	Result	Result	Result
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		----	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		----	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		----	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		----	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		----	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		----	----	----	----	----
ED093F: Dissolved Major Cations									
Sodium	7440-23-5	1	mg/L		----	----	----	----	----
Potassium	7440-09-7	1	mg/L		----	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		----	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	----	----	----	----
EK025SF: Free CN by Segmented Flow Analyser									
Free Cyanide	----	0.004	mg/L		<0.400	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		----	----	----	----	----
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**0.2**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		----	----	----	----	----
Acenaphthylene	208-96-8	1	µg/L		----	----	----	----	----
Acenaphthene	83-32-9	1	µg/L		----	----	----	----	----
Fluorene	86-73-7	1	µg/L		----	----	----	----	----
Phenanthrene	85-01-8	1	µg/L		----	----	----	----	----
Anthracene	120-12-7	1	µg/L		----	----	----	----	----
Fluoranthene	206-44-0	1	µg/L		----	----	----	----	----
Pyrene	129-00-0	1	µg/L		----	----	----	----	----
Benz(a)anthracene	56-55-3	1	µg/L		----	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW203_20151111	----	----	----	----
				Client sampling date / time	[11-Nov-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1535970-006	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	1	µg/L		----	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1	µg/L		----	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		----	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		----	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1	µg/L		----	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1	µg/L		----	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		----	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		----	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		----	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		----	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		----	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		----	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		----	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		----	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		----	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		----	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		----	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		----	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		----	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		----	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		----	----	----	----	----
Toluene	108-88-3	2	µg/L		----	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		----	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		----	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		----	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L		----	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		----	----	----	----	----
Naphthalene	91-20-3	5	µg/L		----	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW203_20151111	----	----	----	----
				Client sampling date / time	[11-Nov-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1535970-006	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		----	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		----	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1	%		----	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1	%		----	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		----	----	----	----	----
Anthracene-d10	1719-06-8	1	%		----	----	----	----	----
4-Terphenyl-d14	1718-51-0	1	%		----	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		----	----	----	----	----
Toluene-D8	2037-26-5	2	%		----	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		----	----	----	----	----

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1535970**	Page	: 1 of 7
Amendment	: **1**		
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@environcorp.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 12-Nov-2015
C-O-C number	: ----	Date Analysis Commenced	: 16-Nov-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 24-Nov-2015
Site	: ----	No. of samples received	: 6
Quote number	: ----	No. of samples analysed	: 6

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

NATA WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dian Dao		Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics

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: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
ED037P: Alkalinity by PC Titrator (QC Lot: 279144)									
ES1535970-001	MW202_20151111	ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	26700	26700	0.00	0% - 20%
		ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	27400	27200	0.887	0% - 20%
ES1536079-001	Anonymous	ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	486	499	2.65	0% - 20%
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	183	187	2.32	0% - 20%
		ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	669	686	2.56	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 279139)									
ES1535970-001	MW202_20151111	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	1250	1530	19.6	0% - 20%
ES1536162-007	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	<1	0.00	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 279140)									
ES1535970-001	MW202_20151111	ED045G: Chloride	16887-00-6	1	mg/L	568	559	1.56	0% - 20%
ES1536162-007	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	13	12	0.00	0% - 50%
ED093F: Dissolved Major Cations (QC Lot: 278422)									
ES1535970-005	QA201	ED093F: Potassium	7440-09-7	1	mg/L	<1	<1	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	<1	<1	0.00	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 278424)									
ES1536006-006	Anonymous	EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	0.00	No Limit
ES1535970-005	QA201	EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.04	0.04	0.00	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 278423)									
ES1535970-005	QA201	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 278622)									
ES1536278-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.00	No Limit
EK040P: Fluoride by PC Titrator (QC Lot: 279143)									
ES1535970-001	MW202_20151111	EK040P: Fluoride	16984-48-8	0.1	mg/L	1880	1860	1.07	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 278546)									
EN1513881-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
ES1535970-004	QA101	EP080: C6 - C9 Fraction	----	20	µg/L	310	300	0.00	0% - 50%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 278546)									
EN1513881-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
ES1535970-004	QA101	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	310	300	0.00	0% - 50%
EP080: BTEXN (QC Lot: 278546)									
EN1513881-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	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: BTEXN (QC Lot: 278546) - continued									
EN1513881-001	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
ES1535970-004	QA101	EP080: Benzene	71-43-2	1	µg/L	3	3	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	4	4	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	5	5	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	58	61	4.14	0% - 50%

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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED037P: Alkalinity by PC Titrator (QCLot: 279144)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	90.7	81	111
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 279139)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	101	82	122
ED045G: Chloride by Discrete Analyser (QCLot: 279140)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	92.2	75	123
				<1	1000 mg/L	90.3	78	128
ED093F: Dissolved Major Cations (QCLot: 278422)								
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	97.0	85	113
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	96.2	82	120
EG020F: Dissolved Metals by ICP-MS (QCLot: 278424)								
EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	94.8	80	116
EG035F: Dissolved Mercury by FIMS (QCLot: 278423)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	96.0	83	105
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 285238)								
EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	101	88	128
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 278622)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	111	73	133
EK040P: Fluoride by PC Titrator (QCLot: 279143)								
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	5 mg/L	103	82	116
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 276881)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	84.0	62	107
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 276879)								
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	64.8	62	113
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	65.8	64	114
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	71.8	64	116
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	64.9	64	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	68.9	63	117
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	63.6	62	119
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	67.5	59	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	65.4	63	115
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	70.8	63	116
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	69.4	61	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 276879) - continued								
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	72.5	64	118
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	65.7	64	115
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	72.0	60	118
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	73.5	50	94
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	70.0	63	116
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	69.9	63	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 276880)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	102	76	116
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	91.7	83	109
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	87.0	75	113
EP080/071: Total Petroleum Hydrocarbons (QCLot: 278546)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	110	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 276880)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	2500 µg/L	98.2	76	114
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	96.5	81	111
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1500 µg/L	95.7	77	119
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 278546)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	114	75	127
EP080: BTEXN (QCLot: 278546)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	108	70	122
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	108	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	109	69	121
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	93.9	70	120
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	107	72	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	106	69	123

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: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 279139)							
ES1535970-001	MW202_20151111	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	10 mg/L	# Not Determined	70	130

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*
ED045G: Chloride by Discrete Analyser (QCLot: 279140)							
ES1535970-001	MW202_20151111	ED045G: Chloride	16887-00-6	250 mg/L	88.4	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 278423)							
ME1510759-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	92.9	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 278622)							
ES1536278-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	120	70	130
EK040P: Fluoride by PC Titrator (QCLot: 279143)							
ES1535970-001	MW202_20151111	EK040P: Fluoride	16984-48-8	5 mg/L	# Not Determined	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 278546)							
EN1513881-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	128	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 278546)							
EN1513881-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	127	70	130
EP080: BTEXN (QCLot: 278546)							
EN1513881-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	94.8	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	106	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	105	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	88.7	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	104	70	130
		EP080: Toluene	108-88-3	25 µg/L	96.9	70	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1535970**	Page	: 1 of 8
Amendment	: **1**		
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Telephone	: +61-2-8784 8555
Project	: AS130456 CWS GW INSTALLATION	Date Samples Received	: 12-Nov-2015
Site	: ----	Issue Date	: 24-Nov-2015
Sampler	: MARK TIEDEMAN	No. of samples received	: 6
Order number	: ----	No. of samples analysed	: 6

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.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

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 : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA	ES1535970--001	MW202_20151111	**Sulfate as SO4 - Turbidimetric**	14808-79-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK040P: Fluoride by PC Titrator	ES1535970--001	MW202_20151111	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)S: Phenolic Compound Surrogates	ES1535970-003	MW206_20151111	**2.4.6-Tribromophenol**	118-79-6	13.9 %	17-125 %	**Recovery less than lower data quality objective**
EP075(SIM)S: Phenolic Compound Surrogates	ES1535970-004	QA101	**2.4.6-Tribromophenol**	118-79-6	14.1 %	17-125 %	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)	*Date extracted*	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EK025SF: Free CN by Segmented Flow Analyser						
Clear Plastic Bottle - Natural						
MW203_20151111	----	----	----	20-Nov-2015	12-Nov-2015	**8**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Free CN by Segmented Flow Analyser	0	5	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Dissolved Metals by ICP-MS - Suite A	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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: **WATER**

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
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	25-Nov-2015	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-Dec-2015	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-Dec-2015	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Nitric Acid; Filtered (ED093F)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-Dec-2015	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Natural (EG020A-F)							
MW204_20151111	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-May-2016	✓
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-May-2016	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**17-Nov-2015**	09-Dec-2015	✓
EK025SF: Free CN by Segmented Flow Analyser							
Clear Plastic Bottle - Natural (EK025SF)							
MW203_20151111	**11-Nov-2015**	**----**	----	----	**20-Nov-2015**	12-Nov-2015	×
White Plastic Bottle-NaOH (EK025SF)							
MW202_20151111, MW204_20151111, MW206_20151111, QA101	**11-Nov-2015**	**----**	----	----	**20-Nov-2015**	25-Nov-2015	✓

Matrix: **WATER**

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
EK026SF: Total CN by Segmented Flow Analyser							
White Plastic Bottle-NaOH (EK026SF)							
MW202_20151111, MW204_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	25-Nov-2015	✓
EK040P: Fluoride by PC Titrator							
Clear Plastic Bottle - Natural (EK040P)							
MW202_20151111, MW204_20151111, MW206_20151111, QA101, QA201, MW203_20151111	**11-Nov-2015**	**----**	----	----	**16-Nov-2015**	09-Dec-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**17-Nov-2015**	18-Nov-2015	✓	**18-Nov-2015**	27-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**17-Nov-2015**	18-Nov-2015	✓	**18-Nov-2015**	27-Dec-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**17-Nov-2015**	18-Nov-2015	✓	**18-Nov-2015**	27-Dec-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
MW202_20151111, MW206_20151111, QA101, QA201	**11-Nov-2015**	**16-Nov-2015**	25-Nov-2015	✓	**16-Nov-2015**	25-Nov-2015	✓

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: **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)							
Alkalinity by PC Titrator	ED037-P	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	10	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	0	5	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	8	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.00**	**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*	
Method Blanks (MB) - Continued							
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	0	10	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	0	5	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM (2013) Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM (2013) Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.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 APHA 21st edition seal method 2 017-1-L april 2003
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM (2013) Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM (2013) Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM (2013) Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Free CN by Segmented Flow Analyser	EK025SF	WATER	In house: Referenced to ASTM D7237: Using an automated segmented flow analyser, a sample at high pH (sodium hydroxide preserved) is buffered to pH 6.0. The hydrogen cyanide present passes across a gas dialysis membrane into an acceptor stream consisting of 0.01 M sodium hydroxide. The acceptor stream mixes with a buffer at pH 5.2 and reacts with chloramine-T to form cyanogen chloride. Cyanogen chloride reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour, measured at 600nm. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN O. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500 F--C CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample 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)
TRH - Semivolatile Fraction	EP071	WATER	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)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	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)

updated CoC ES1535970

RAMBOLL ENVIRON

Chain of Custody & Analysis Request Form

Ramboll Environ
Level 2, Suite 19B, 50 Glebe Road
The Junction NSW 2291
Tel: 02 49625444
Email: mtiedeman@environcorp.com
Email: frobinson@environcorp.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277-289 Woodpark Road, Smithfield NSW
Contact Name:
Lab. Ref:
Tel: 02 8784 8555
Fax: 02 8784 8500
Final Report by:
Lab Quote No:

Project CWS GW Installation **Project Number:** AS130456 **Purchase Order Number:**

Sample collected by: Mark Tiedeman **Sample Results to be returned to:** mtiedeman@environcorp.com; frobinson@environcorp.com

Specifications:

	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days) STANDARD	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☑ Yes	☑ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☑ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: esdat / excel / pdf 8. Project Manager: Neil Woodridge tel:

Analysis Request

Lab. ID	Sample ID	Sampling Date	Sampling Time	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	pH/EC	Total Alkalinity	Sodium / Potassium / Chloride	Fluoride / Sulphate	Cyanide	Carbonate	Aluminium	PAH / TRH / BTEX / PCB	Mercury	Fluoride					HOLD	Remarks & comments
1	MW202_20151111	11/11/2015			x								x	x	x	x	x	x	x	x							
2	MW204_20151111	11/11/2015			x											x		x			x						Decant from bottles provided
3	MW206_20151111	11/11/2015			x								x	x	x	x	x	x	x	x							
4	QA101	11/11/2015			x								x	x	x	x	x	x	x	x							
5	QA201	11/11/2015			x								x	x	x	x	x	x	x	x							
6	MW203_20151111	11/11/2015																			x						

Environmental Division
Sydney
Work Order Reference
ES1535970

Telephone : +61-2-8784 8555

☐ Courier ☐ Postal ☐ By Han

Relinquished By:	Received by:		
Mark Tiedeman	Name: Fadi	Received in good condition?	Yes/No/NA — Method of Shipment:
Date:	Date: 12/11/15	Samples received chilled?	Yes/No/NA — Consignment Note No.
of: Ramboll Environ	of: Amy		Yes/No/NA — Transport Co:
Time:	Time: 1pm		☐ Courier ☐ Postal ☐ By Hand

Relinquished By:	Received by:		
Name:	Name:	Received in good condition?	Yes/No/NA — Method of Shipment
Date:	Date:	Samples received chilled?	Yes/No/NA — Consignment Note No.
of: Environment	of:		Yes/No/NA — Transport Co:
Time:	Time:		

Fadi Soro

From: Loren Schiavon
Sent: Thursday, 12 November 2015 12:30 PM
To: Fadi Soro
Subject: FW: COC
Attachments: GW COC_ALS CWS.xlsx

FYI – COC for sample received for analysis yesterday.

Kind regards

Loren Schiavon

CLIENT SERVICES CO-ORDINATOR
ALS | Environmental Division

277-289 Woodpark Road
Smithfield NSW 2164 Australia

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F +61 2 8784 8500

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From: Mark Tiedeman [mailto:mtiedeman@ramboll.com]
Sent: Thursday, 12 November 2015 11:26 AM
To: Loren Schiavon
Subject: COC

Hi Loren,

Please find attached CoC for water samples (ES1535970) submitted yesterday. I have only selected a few analytes for MW203 and MW204. If there is enough water for more of the listed analytes, please let me know.

Yours sincerely
Mark Tiedeman

Senior Environmental Consultant

D +61 2 4962 5444
mtiedeman@ramboll.com

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ABN 49 095 437 442

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Wael Saleh

From: Loren Schiavon
Sent: Friday, 20 November 2015 12:44 PM
To: Wael Saleh
Subject: FW: ES1535970

Hi Wael,

Can you please amend batch ES1535970 to add in free cyanide as requested below?

Thanks.

Kind regards

Loren Schiavon

CLIENT SERVICES CO-ORDINATOR
ALS | Environmental Division

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---

From: Mark Tiedeman [mailto:mtiedeman@ramboll.com]
Sent: Friday, 20 November 2015 11:16 AM
To: Loren Schiavon
Subject: RE: ES1535970

Thanks Loren,

1. Can you please have the following water samples from w/o ES1535970 analysed for free cyanide:
   - MW202
   - MW204
   - MW206
   - QA101
   - MW203

2. Can you please confirm if the fluoride analysed for these samples were “soluble fluoride?” Thanks

Yours sincerely
Mark Tiedeman

Senior Environmental Consultant

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mtiedeman@ramboll.com

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Ramboll Environ Australia Pty Ltd
ACN 095 437 442
ABN 49 095 437 442

From: Loren Schiavon [mailto:loren.schiavon@alsglobal.com]
Sent: Thursday, 19 November 2015 6:30 PM
To: Mark Tiedeman <mtiedeman@ramboll.com>
Subject: RE: ES1535970

Hi Mark,

I'm so sorry for the late reply – the batch was released – just let me know if there are any issues.

Kind regards

Loren Schiavon

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ALS | Environmental Division

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From: Mark Tiedeman [mailto:mtiedeman@ramboll.com]
Sent: Thursday, 19 November 2015 3:12 PM
To: Loren Schiavon
Subject: ES1535970
Importance: High

Hi Loren,
Can you please let me know if ES1535970 is ready to report?

Thanks

Yours sincerely
Mark Tiedeman

Senior Environmental Consultant

D +61 2 4962 5444
mtiedeman@ramboll.com
_____

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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1536271**	Page	: 1 of 10
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 13-Nov-2015 10:30
C-O-C number	: ----	Date Analysis Commenced	: 16-Nov-2015
Sampler	: ----	Issue Date	: 20-Nov-2015 17:20
Site	: ----		
		No. of samples received	: 4
Quote number	: ----	No. of samples analysed	: 4

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Dian Dao		Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics

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.

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.

- EP075: Poor duplicate precision and matrix spike recovery due to sample heterogeneity.
- EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- 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.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW206_12	MW206_13	MW206_13.5	MW206_14	----
				Client sampling date / time	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	----
Compound	CAS Number	LOR	Unit		ES1536271-001	ES1536271-002	ES1536271-003	ES1536271-004	--------
					Result	Result	Result	Result	Result
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1	%		18.5	15.0	17.5	16.4	----
EK040S: Fluoride Soluble									
Fluoride	16984-48-8	1	mg/kg		2700	2360	1490	574	----
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									
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	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW206_12	MW206_13	MW206_13.5	MW206_14	----
				Client sampling date / time	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	----
Compound	CAS Number	LOR	Unit		ES1536271-001	ES1536271-002	ES1536271-003	ES1536271-004	--------
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
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	----	----	----	----
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	----	----	----	----
1.2.3-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	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW206_12	MW206_13	MW206_13.5	MW206_14	----
			Client sampling date / time	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	----
Compound	CAS Number	LOR	Unit	ES1536271-001	ES1536271-002	ES1536271-003	ES1536271-004	--------
				Result	Result	Result	Result	Result
EP074G: Trihalomethanes - Continued								
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	----	----
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	----	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	----
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	<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**	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.6	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW206_12	MW206_13	MW206_13.5	MW206_14	----
			Client sampling date / time	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	----
Compound	CAS Number	LOR	Unit	ES1536271-001	ES1536271-002	ES1536271-003	ES1536271-004	--------
				Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued								
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	**0.8**	----	----	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	**3.0**	----	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	**7.1**	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	**3.8**	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**26.0**	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	**7.6**	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**90.0**	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	**90.4**	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**110**	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	**96.3**	----	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	**230**	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**128**	----	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**66.4**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	**17.6**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**64.5**	----	----	----	----
^ Sum of PAHs	----	0.5	mg/kg	**938**	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**188**	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**188**	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**188**	----	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	<5.0	----	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW206_12	MW206_13	MW206_13.5	MW206_14	----
				Client sampling date / time	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	----
Compound	CAS Number	LOR	Unit		ES1536271-001	ES1536271-002	ES1536271-003	ES1536271-004	--------
					Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued									
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	----	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	1	mg/kg		<1.0	----	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	----	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	----	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	mg/kg		<1.0	----	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	----	----	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	----	----	----	----
Acetophenone	98-86-2	0.5	mg/kg		<0.5	----	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	----	----	----	----
Isophorone	78-59-1	0.5	mg/kg		<0.5	----	----	----	----
2.6-Dinitrotoluene	606-20-2	1	mg/kg		<1.0	----	----	----	----
2.4-Dinitrotoluene	121-14-2	1	mg/kg		<1.0	----	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	----	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	----	----	----	----
Azobenzene	103-33-3	1	mg/kg		<1	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	----	----	----	----
Phenacetin	62-44-2	0.5	mg/kg		<0.5	----	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	----	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	----	----	----	----
Pronamide	23950-58-5	0.5	mg/kg		<0.5	----	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	----	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	----	----	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW206_12	MW206_13	MW206_13.5	MW206_14	----
			Client sampling date / time	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	----
Compound	CAS Number	LOR	Unit	ES1536271-001	ES1536271-002	ES1536271-003	ES1536271-004	--------
				Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons								
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	----	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	1	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	----	----	----
2-Nitroaniline	88-74-4	1	mg/kg	<1.0	----	----	----	----
3-Nitroaniline	99-09-2	1	mg/kg	<1.0	----	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	**3.5**	----	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	----	----	----
Carbazole	86-74-8	0.5	mg/kg	**6.6**	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	----	----	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW206_12	MW206_13	MW206_13.5	MW206_14	----
				Client sampling date / time	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	----
Compound	CAS Number	LOR	Unit		ES1536271-001	ES1536271-002	ES1536271-003	ES1536271-004	--------
					Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued									
4.4`-DDT	50-29-3	1	mg/kg		<1.0	----	----	----	----
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		<0.5	----	----	----	----
Dimethoate	60-51-5	0.5	mg/kg		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	mg/kg		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		<0.5	----	----	----	----
Malathion	121-75-5	0.5	mg/kg		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	mg/kg		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg		<0.5	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg		<0.5	----	----	----	----
Ethion	563-12-2	0.5	mg/kg		<0.5	----	----	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		79.9	----	----	----	----
Toluene-D8	2037-26-5	0.5	%		104	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.5	%		97.5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	82.4	99.0	106	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	101	102	98.6	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	91.7	78.4	103	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	106	94.1	91.3	----
Anthracene-d10	1719-06-8	0.5	%		----	99.1	97.4	101	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	93.4	93.3	93.0	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		59.2	----	----	----	----
Phenol-d6	13127-88-3	0.5	%		98.5	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		92.5	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		57.2	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		81.9	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		80.8	----	----	----	----
2-Fluorobiphenyl	321-60-8	0.5	%		95.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW206_12	MW206_13	MW206_13.5	MW206_14	----
				Client sampling date / time	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	[03-Nov-2015]	----
Compound	CAS Number	LOR	Unit		ES1536271-001	ES1536271-002	ES1536271-003	ES1536271-004	--------
					Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued									
Anthracene-d10	1719-06-8	0.5	%		**104**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**103**	----	----	----	----

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1536271**	Page	: 1 of 15
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 13-Nov-2015
C-O-C number	: ----	Date Analysis Commenced	: 16-Nov-2015
Sampler	: ----	Issue Date	: 20-Nov-2015
Site	: ----	No. of samples received	: 4
Quote number	: ----	No. of samples analysed	: 4

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

NATA WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Dian Dao		Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics

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 (%)*
EA055: Moisture Content (QC Lot: 278716)									
ES1536269-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	9.0	9.7	7.94	No Limit
EK040S: Fluoride Soluble (QC Lot: 281378)									
ES1536271-001	MW206_12	EK040S: Fluoride	16984-48-8	1	mg/kg	2700	2450	10.0	0% - 20%
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 277519)									
ES1536040-001	Anonymous	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	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: 1.3.5-Trimethylbenzene	108-67-8	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: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	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
		EP074: n-Propylbenzene	103-65-1	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: p-Isopropyltoluene	99-87-6	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: Styrene	100-42-5	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: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074B: Oxygenated Compounds (QC Lot: 277519)									
ES1536040-001	Anonymous	EP074: 2-Butanone (MEK)	78-93-3	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
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.00	No Limit
EP074C: Sulfonated Compounds (QC Lot: 277519)									
ES1536040-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074D: Fumigants (QC Lot: 277519)									
ES1536040-001	Anonymous	EP074: 1.2-Dibromoethane (EDB)	106-93-4	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: 2.2-Dichloropropane	594-20-7	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
EP074E: Halogenated Aliphatic Compounds (QC Lot: 277519)									
ES1536040-001	Anonymous	EP074: 1.1.1.2-Tetrachloroethane	630-20-6	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

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: 277519) - continued									
ES1536040-001	Anonymous	EP074: 1.1.2.2-Tetrachloroethane	79-34-5	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: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1-Dichloroethene	75-35-4	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: 1.2.3-Trichloropropane	96-18-4	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: 1.2-Dichloroethane	107-06-2	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: Carbon Tetrachloride	56-23-5	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: cis-1.4-Dichloro-2-butene	1476-11-5	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: Iodomethane	74-88-4	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: Tetrachloroethene	127-18-4	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: trans-1.4-Dichloro-2-butene	110-57-6	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: 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: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.00	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 277519)									
ES1536040-001	Anonymous	EP074: 1.2.3-Trichlorobenzene	87-61-6	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: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074G: Trihalomethanes (QC Lot: 277519)									
ES1536040-001	Anonymous	EP074: Bromodichloromethane	75-27-4	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
		EP074: Chloroform	67-66-3	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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 277528)									
ES1536271-004	MW206_14	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 277528) - continued									
ES1536271-004	MW206_14	EP075(SIM): Benz(a)anthracene	56-55-3	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): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	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): Fluoranthene	206-44-0	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): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene	91-20-3	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): Pyrene	129-00-0	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
ES1536030-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	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): Benzo(a)pyrene	50-32-8	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): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	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): Fluoranthene	206-44-0	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): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene	91-20-3	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): Pyrene	129-00-0	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
EP075A: Phenolic Compounds (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	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 (%)*
EP075A: Phenolic Compounds (QC Lot: 278113) - continued									
ES1536271-001	MW206_12	EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.6	<0.6	0.00	No Limit
		EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.00	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	3.0	2.0	39.8	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	7.1	4.7	40.3	0% - 50%
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	7.6	5.1	40.5	0% - 50%
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	110	# 84.7	26.2	0% - 20%
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	128	# 102	22.2	0% - 20%
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	64.5	56.1	14.0	0% - 20%
		EP075: Chrysene	218-01-9	0.5	mg/kg	96.3	80.4	18.0	0% - 20%
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	17.6	15.8	10.8	0% - 20%
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	90.0	# 67.3	28.8	0% - 20%
		EP075: Fluorene	86-73-7	0.5	mg/kg	3.8	2.3	48.8	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	66.4	55.4	18.2	0% - 20%
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Naphthalene	91-20-3	0.5	mg/kg	0.8	0.6	24.3	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	26.0	23.2	11.0	0% - 20%
		EP075: Pyrene	129-00-0	0.5	mg/kg	90.4	# 68.9	27.1	0% - 20%
		EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	230	# 186	21.1	0% - 20%
EP075C: Phthalate Esters (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075D: Nitrosamines (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: Methapyrilene	91-80-5	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 (%)*
EP075D: Nitrosamines (QC Lot: 278113) - continued									
ES1536271-001	MW206_12	EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.00	No Limit
EP075F: Haloethers (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<2.5	<2.5	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 (%)*
EP075G: Chlorinated Hydrocarbons (QC Lot: 278113) - continued									
ES1536271-001	MW206_12	EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075H: Anilines and Benzidines (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	6.6	4.5	37.3	0% - 50%
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	3.5	2.4	35.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 278113)									
ES1536271-001	MW206_12	EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EK040S: Fluoride Soluble (QCLot: 281378)								
EK040S: Fluoride	16984-48-8	1	mg/kg	<1	25 mg/kg	95.0	69	117
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 277519)								
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	93.5	69	117
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	80.4	68	118
EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	73.7	71	121
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	77.9	72	114
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	78.3	65	117
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	85.2	70	116
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	75.5	59	125
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	78.6	66	122
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	84.6	75	115
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	76.4	66	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	76.9	69	119
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	76.9	67	113
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	77.7	69	115
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	88.6	65	131
EP074B: Oxygenated Compounds (QCLot: 277519)								
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	62.3	58	136
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	81.4	54	136
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	87.2	62	132
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	43.6	30	156
EP074C: Sulfonated Compounds (QCLot: 277519)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	73.5	54	126
EP074D: Fumigants (QCLot: 277519)								
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	78.2	63	115
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	72.8	68	124
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	74.2	60	126
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	66.9	51	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	68.1	52	114
EP074E: Halogenated Aliphatic Compounds (QCLot: 277519)								
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	71.8	62	122
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	72.5	65	117
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	81.0	65	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 277519) - continued								
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	81.1	64	126
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	76.7	67	125
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	73.5	54	126
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	74.4	65	123
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	77.8	61	125
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	81.7	53	129
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	75.8	65	125
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	76.9	68	122
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	77.6	47	141
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	68.8	59	125
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	86.6	49	143
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	77.5	41	141
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	73.1	69	121
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	78.9	55	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	73.7	68	118
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	61.0	30	148
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	76.8	43	129
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	59.0	20	134
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	90.2	67	143
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	72.4	64	120
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	73.4	54	128
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	75.7	70	118
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	85.4	49	135
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	80.5	43	147
EP074F: Halogenated Aromatic Compounds (QCLot: 277519)								
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	77.7	52	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	78.8	68	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	77.2	67	123
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	77.2	70	1147
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	76.8	68	116
EP074G: Trihalomethanes (QCLot: 277519)								
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	63.3	61	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	79.8	60	126
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	77.2	66	124
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	81.8	63	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 277528)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	100	73	127
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	97.4	72	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 277528) - continued								
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	95.3	77	127
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	89.8	69	123
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	93.7	70	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	97.9	68	116
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	89.2	63	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	96.0	74	126
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	97.7	75	127
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	88.4	62	118
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	100	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	97.6	72	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	90.9	61	121
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	97.0	77	125
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	97.5	75	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	94.0	74	128
EP075A: Phenolic Compounds (QCLot: 278113)								
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	66.1	49	107
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	77.6	49	109
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	# 129	47	105
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	74.4	14	108
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	76.4	48	110
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	76.0	57	115
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	76.1	55	117
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	68.7	47	117
EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.6	3 mg/kg	69.5	46	122
EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	78.8	57	113
EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	3 mg/kg	19.3	12	76
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	72.4	64	114
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 278113)								
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	54	112
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	81.7	58	116
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	76.3	50	116
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	83.6	48	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	81.9	62	112
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	81.4	56	114
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	83.8	57	111
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	79.8	59	115
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	80.0	56	116

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 278113) - continued								
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	3 mg/kg	83.8	57	119
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	76.5	56	120
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	83.9	61	117
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	71.1	53	119
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	82.5	58	114
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	80.6	59	115
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	77.0	55	117
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.8	58	114
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	62	118
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	85.2	63	113
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	82.2	57	117
EP075C: Phthalate Esters (QCLot: 278113)								
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	88.5	69	133
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	85.1	62	116
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	82.4	65	115
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.9	60	118
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	83.9	65	121
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	83.0	62	124
EP075D: Nitrosamines (QCLot: 278113)								
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	57.6	16	123
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	77.5	57	119
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	67.6	59	117
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	73.4	59	123
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	80.2	42	112
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	88.0	39	124
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	73.6	65	121
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	74.3	57	115
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	72.9	53	125
EP075E: Nitroaromatics and Ketones (QCLot: 278113)								
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	58.4	36	114
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	38.8	18	112
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	78.2	59	115
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	79.1	58	118
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	56.3	27	129
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	44.7	36	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	50.4	10	87

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 278113) - continued								
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	63.9	48	99
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	69.1	60	116
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	82.8	62	118
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	89.5	57	112
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	80.0	48	108
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	69.4	62	116
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	72.4	65	119
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	77.6	56	110
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	62	114
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	79.4	54	110
EP075F: Haloethers (QCLot: 278113)								
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.8	58	110
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	81.0	58	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	72.8	59	115
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	# 49.1	63	121
EP075G: Chlorinated Hydrocarbons (QCLot: 278113)								
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	79.9	63	108
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	72.4	57	115
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	73.7	58	112
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	76.6	58	116
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	84.7	59	111
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	88.3	59	117
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<0.5	1.5 mg/kg	# 19.3	24	108
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	76.9	54	116
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	75.6	39	110
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	80.9	57	109
EP075H: Anilines and Benzidines (QCLot: 278113)								
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	79.3	52	112
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	108	23	113
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	73.0	32	94
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	41.4	21	99
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	95.0	42	112
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	49.4	13	108
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	59	111
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	79.8	60	110
EP075I: Organochlorine Pesticides (QCLot: 278113)								
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.5 mg/kg	86.5	62	118
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.5 mg/kg	77.8	60	116

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075I: Organochlorine Pesticides (QCLot: 278113) - continued								
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<0.5	1.5 mg/kg	84.2	46	122
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.6	61	115
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.5 mg/kg	84.1	63	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.1	65	125
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.5 mg/kg	71.6	57	113
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.5 mg/kg	81.2	65	115
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.5 mg/kg	85.7	64	118
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.5 mg/kg	84.6	64	118
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.5 mg/kg	86.7	63	129
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.5 mg/kg	86.4	53	117
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.5 mg/kg	82.0	61	117
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.5 mg/kg	83.9	55	115
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.8	56	118
EP075J: Organophosphorus Pesticides (QCLot: 278113)								
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	1.5 mg/kg	82.9	59	103
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.5 mg/kg	84.9	63	113
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.5 mg/kg	81.2	60	130
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.5 mg/kg	# 35.5	68	134
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	54.3	46	112
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.5 mg/kg	80.1	63	119
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.1	62	118
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.5 mg/kg	82.4	60	116
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	92.1	65	127
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.5 mg/kg	82.7	65	115
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.5 mg/kg	84.4	59	119

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
				Concentration	MS	Low	High
EK040S: Fluoride Soluble (QCLot: 281378)							
ES1536271-001	MW206_12	EK040S: Fluoride	16984-48-8	25 mg/kg	# Not Determined	70	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 277519)							
ES1536040-001	Anonymous	EP074: Benzene	71-43-2	2.5 mg/kg	74.9	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
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 277519) - continued							
ES1536040-001	Anonymous	EP074: Toluene	108-88-3	2.5 mg/kg	71.8	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 277519)							
ES1536040-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	80.8	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	71.0	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 277519)							
ES1536040-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	76.0	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 277528)							
ES1536030-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	80.2	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	97.6	70	130
EP075A: Phenolic Compounds (QCLot: 278113)							
ES1536271-001	MW206_12	EP075: 2-Chlorophenol	95-57-8	10 mg/kg	89.2	60	130
		EP075: 2-Nitrophenol	88-75-5	10 mg/kg	76.6	50	130
		EP075: 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	88.9	50	130
		EP075: Pentachlorophenol	87-86-5	20 mg/kg	21.6	10	130
		EP075: Phenol	108-95-2	10 mg/kg	88.7	60	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 278113)							
ES1536271-001	MW206_12	EP075: Acenaphthene	83-32-9	10 mg/kg	103	50	130
		EP075: Pyrene	129-00-0	10 mg/kg	# Not Determined	50	130
EP075D: Nitrosamines (QCLot: 278113)							
ES1536271-001	MW206_12	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	88.6	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 278113)							
ES1536271-001	MW206_12	EP075: 2.4-Dinitrotoluene	121-14-2	10 mg/kg	93.9	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 278113)							
ES1536271-001	MW206_12	EP075: 1.2.4-Trichlorobenzene	120-82-1	10 mg/kg	92.0	50	130
		EP075: 1.4-Dichlorobenzene	106-46-7	10 mg/kg	90.2	60	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1536271**	Page	: 1 of 5
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Telephone	: +61-2-8784 8555
Project	: AS130456 CWS GW INSTALLATION	Date Samples Received	: 13-Nov-2015
Site	: ----	Issue Date	: 20-Nov-2015
Sampler	: ----	No. of samples received	: 4
Order number	: ----	No. of samples analysed	: 4

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.**
- **Duplicate outliers exist - please see following pages for full details.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **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 : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP075B: Polynuclear Aromatic Hydrocarbons	ES1536271--001	MW206_12	**Benz(a)anthracene**	56-55-3	26.2 %	0% - 20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1536271--001	MW206_12	**Benzo(a)pyrene**	50-32-8	22.2 %	0% - 20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1536271--001	MW206_12	**Benzo(b+j) & Benzo(k)fluoranthene**	205-99-2 207-08-9	21.1 %	0% - 20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1536271--001	MW206_12	**Fluoranthene**	206-44-0	28.8 %	0% - 20%	**RPD exceeds LOR based limits**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1536271--001	MW206_12	**Pyrene**	129-00-0	27.1 %	0% - 20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EP075A: Phenolic Compounds	QC-278113-002	----	**2.4-Dichlorophenol**	120-83-2	129 %	47-105%	**Recovery greater than upper control limit**
EP075F: Haloethers	QC-278113-002	----	**Bis(2-chloroethyl) ether**	111-44-4	49.1 %	63-121%	**Recovery less than lower control limit**
EP075G: Chlorinated Hydrocarbons	QC-278113-002	----	**Hexachlorocyclopentadiene**	77-47-4	19.3 %	24-108%	**Recovery less than lower control limit**
EP075J: Organophosphorus Pesticides	QC-278113-002	----	**Diazinon**	333-41-5	35.5 %	68-134%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EK040S: Fluoride Soluble	ES1536271--001	MW206_12	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP075B: Polynuclear Aromatic Hydrocarbons	ES1536271--001	MW206_12	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / **Container** / Client Sample ID(s)	*Extraction / Preparation*			*Analysis*		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EK040S: Fluoride Soluble						
Soil Glass Jar - Unpreserved						
MW206_12, MW206_13, MW206_13.5, MW206_14	18-Nov-2015	10-Nov-2015	**8**	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons						
Soil Glass Jar - Unpreserved						
MW206_12	16-Nov-2015	10-Nov-2015	**5**	16-Nov-2015	10-Nov-2015	**6**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP) - Continued					
Moisture Content	1	13	7.69	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

Matrix: **SOIL**

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

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content							
Lab Split: Managed Moisture for Dry Weight Det. (EA055-103)							
MW206_12	**03-Nov-2015**	**----**	----	----	**16-Nov-2015**	01-May-2016	✓
Soil Glass Jar - Unpreserved (EA055-103)							
MW206_13, MW206_13.5, MW206_14	**03-Nov-2015**	**----**	----	----	**16-Nov-2015**	17-Nov-2015	✓
EK040S: Fluoride Soluble							
Soil Glass Jar - Unpreserved (EK040S)							
MW206_12, MW206_13, MW206_13.5, MW206_14	**03-Nov-2015**	**18-Nov-2015**	10-Nov-2015	×	**20-Nov-2015**	16-Dec-2015	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP074)							
MW206_12	**03-Nov-2015**	**16-Nov-2015**	10-Nov-2015	×	**16-Nov-2015**	10-Nov-2015	×
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
MW206_13, MW206_13.5, MW206_14	**03-Nov-2015**	**16-Nov-2015**	17-Nov-2015	✓	**17-Nov-2015**	26-Dec-2015	✓
EP075A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075)							
MW206_12	**03-Nov-2015**	**16-Nov-2015**	17-Nov-2015	✓	**17-Nov-2015**	26-Dec-2015	✓

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)							
Fluoride - Soluble	EK040S	1	4	**25.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055-103	1	13	**7.69**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Fluoride - Soluble	EK040S	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Fluoride - Soluble	EK040S	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Fluoride - Soluble	EK040S	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Fluoride - Soluble	EK040S	SOIL	In house: Referenced to APHA 4500 F--C Soluble Fluoride is determined after a 1:5 soil/water extract using an ion selective electrode.
Volatile Organic Compounds	EP074	SOIL	(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)
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) 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 502)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) 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)

Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES1536271**

Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: Eastpoint Complex | Suite 19B, Level 2 50 Glebe Road PO Box 435 THE JUNCTION NSW 2291	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 CWS GW INSTALLATION	Page	: 1 of 2
Order number	: ----	Quote number	: ES2015ENVIAUS0373 (EN/072/15)
C-O-C number	: ----	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 13-Nov-2015 10:30 AM	Issue Date	: 13-Nov-2015
Client Requested Due Date	: 20-Nov-2015	Scheduled Reporting Date	: **20-Nov-2015**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 4.1' C
Receipt Detail	:	No. of samples received / analysed	: 4 / 4

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **This is a rebatch of ES1535263.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

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

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA055-103 Moisture Content	SOIL - EK040S Fluoride Soluble	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - S-23 SVOC/VOC
ES1536271-001	[03-Nov-2015]	MW206_12	✓	✓		✓
ES1536271-002	[03-Nov-2015]	MW206_13	✓	✓	✓	
ES1536271-003	[03-Nov-2015]	MW206_13.5	✓	✓	✓	
ES1536271-004	[03-Nov-2015]	MW204_14	✓	✓	✓	

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

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

Method Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received Date	Samples Received Evaluation	Instructions Received Date	Instructions Received Evaluation
EK040S: Fluoride - Soluble							
MW204_14	Soil Glass Jar - Unpreserved	10-Nov-2015	08-Dec-2015	13-Nov-2015	×	----	----
MW206_12	Soil Glass Jar - Unpreserved	10-Nov-2015	08-Dec-2015	13-Nov-2015	×	----	----
MW206_13.5	Soil Glass Jar - Unpreserved	10-Nov-2015	08-Dec-2015	13-Nov-2015	×	----	----
MW206_13	Soil Glass Jar - Unpreserved	10-Nov-2015	08-Dec-2015	13-Nov-2015	×	----	----
EP074: Volatile Organic Compounds							
MW206_12	Soil Glass Jar - Unpreserved	10-Nov-2015	10-Nov-2015	13-Nov-2015	×	----	----

Requested Deliverables

Cindy Suen

- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email — cindy.suen@alsglobal.com
- Chain of Custody (CoC) (COC) — Email — cindy.suen@alsglobal.com

MARK TIEDEMAN

- *AU Certificate of Analysis - NATA (COA) — Email — mtiedeman@ramboll.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) — Email — mtiedeman@ramboll.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) — Email — mtiedeman@ramboll.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) — Email — mtiedeman@ramboll.com
- A4 - AU Tax Invoice (INV) — Email — mtiedeman@ramboll.com
- Chain of Custody (CoC) (COC) — Email — mtiedeman@ramboll.com
- EDI Format - ENMRG (ENMRG) — Email — mtiedeman@ramboll.com
- EDI Format - ESDAT (ESDAT) — Email — mtiedeman@ramboll.com

2,4,5,6 S40

Fadi Soro

Fadi 13/11/15 10:30

From: Loren Schiavon
Sent: Thursday, 12 November 2015 5:18 PM
To: Fadi Soro
Subject: FW: ES1535263 - Additional analysis

Hi Fadi,

Can you please arrange this re-batch for me?

Thanks.

Kind regards

Loren Schiavon

CLIENT SERVICES CO-ORDINATOR
ALS | Environmental Division

277-289 Woodpark Road
Smithfield NSW 2164 Australia

T +61 2 8784 8503
F +61 2 8784 8500

Environmental Division
Sydney
Work Order Reference
ES1536271

Telephone : +61-2-8784 8555

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From: Mark Tiedeman [mailto:mtiedeman@ramboll.com]
Sent: Thursday, 12 November 2015 4:46 PM
To: Loren Schiavon

Cc: Fiona Robinson
Subject: ES1535263 - Additional analysis

Hi Loren, (1)
I would like some additional analysis on sample "MW206_12" from ES1535263. Can you please get this sample analysed for:

- Soluble fluoride;
- SVOC scan; and
- VOC scan.

(2) (3) (4)

Additionally, can you please have samples MW206_13, MW206_13.5 and MW206_14 analysed for:

- Soluble Fluoride;
- PAHs

Thanks

Yours sincerely
Mark Tiedeman

Senior Environmental Consultant

D +61 2 4962 5444
mtiedeman@ramboll.com

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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1536568**	Page	: 1 of 10
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: PO BOX 560 NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 ADDITIONAL SAMPLING	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 18-Nov-2015 14:42
C-O-C number	: ----	Date Analysis Commenced	: 07-Dec-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 15-Dec-2015 11:22
Site	: ----		
		No. of samples received	: 12
Quote number	: ----	No. of samples analysed	: 12

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been 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
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics, Mayfield West, NSW
Pabi Subba	Senior Organic Chemist	Sydney Inorganics, Smithfield, NSW Sydney Organics, Smithfield, NSW
Shobhna Chandra	Metals Coordinator	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.

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.

- Unable to determine Matrix Spike recovery for ES1536568-001 as the level in the sample greatly exceeds the spike concentration.
- 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.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	LEDGE BATH 26/7/12	ANODE COVER MATERIAL 11/9/15	ALUMINIUM FLUORIDE	REACTED ALUMINA	REFRACTORY - A
				Client sampling date / time	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]
Compound	CAS Number	LOR	Unit		ES1536568-001	ES1536568-002	ES1536568-003	ES1536568-004	ES1536568-005
					Result	Result	Result	Result	Result
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1	%		<1.0	<1.0	<1.0	3.9	<1.0
ED093S: Soluble Major Cations									
Calcium	7440-70-2	0.001	%		----	----	----	----	----
Calcium	7440-70-2	10	mg/kg		130	70	<10	<10	----
Sodium	7440-23-5	0.001	%		----	----	----	----	----
Sodium	7440-23-5	10	mg/kg		1400	1770	270	2540	----
EG005T: Total Metals by ICP-AES									
Aluminium	7429-90-5	0.005	%		----	----	----	----	----
Aluminium	7429-90-5	50	mg/kg		84500	136000	18100	122000	----
Arsenic	7440-38-2	5	mg/kg		----	----	----	----	<5
Cadmium	7440-43-9	1	mg/kg		----	----	----	----	<1
Chromium	7440-47-3	2	mg/kg		----	----	----	----	23
Copper	7440-50-8	5	mg/kg		----	----	----	----	40
Lead	7439-92-1	5	mg/kg		----	----	----	----	<5
Nickel	7440-02-0	2	mg/kg		----	----	----	----	6
Zinc	7440-66-6	5	mg/kg		----	----	----	----	63
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	----	----	----	<0.1
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		----	----	----	----	<1
EK040T: Fluoride Total									
Fluoride	16984-48-8	0.004	%		----	----	----	----	----
Fluoride	16984-48-8	40	mg/kg		206000	184000	312000	9390	3210
EN33: TCLP Leach									
Initial pH	----	0.1	pH Unit		6.9	6.9	6.2	6.2	----
After HCl pH	----	0.1	pH Unit		1.8	1.7	1.4	1.6	----
Extraction Fluid Number	----	1	-		1	1	1	1	----
Final pH	----	0.1	pH Unit		4.9	5.0	4.9	5.0	----
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	LEDGE BATH 26/7/12	ANODE COVER MATERIAL 11/9/15	ALUMINIUM FLUORIDE	REACTED ALUMINA	REFRACTORY - A
				Client sampling date / time	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]
Compound	CAS Number	LOR	Unit		ES1536568-001	ES1536568-002	ES1536568-003	ES1536568-004	ES1536568-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
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**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	----	----	**78.2**
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	----	**75.4**
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	----	----	**81.8**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	----	**74.2**
Anthracene-d10	1719-06-8	0.5	%		----	----	----	----	**75.2**
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	----	**73.7**

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	REFRACTORY - B	REFRACTORY - C	REFRACTORY - D	LEDGE BATH 26/7/12 REPORTED %	ANODE COVER MATERIAL 11/9/15 REPORTED %
				Client sampling date / time	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]
					ES1536568-006	ES1536568-007	ES1536568-008	ES1536568-009	ES1536568-010
					Result	Result	Result	Result	Result
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1	%		<1.0	<1.0	<1.0	<1.0	<1.0
ED093S: Soluble Major Cations									
Calcium	7440-70-2	0.001	%		----	----	----	**0.013**	**0.007**
Calcium	7440-70-2	10	mg/kg		----	----	----	----	----
Sodium	7440-23-5	0.001	%		----	----	----	**0.141**	**0.174**
Sodium	7440-23-5	10	mg/kg		----	----	----	----	----
EG005T: Total Metals by ICP-AES									
Aluminium	7429-90-5	0.005	%		----	----	----	**7.68**	**14.0**
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	----
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg		**22**	**36**	**32**	----	----
Copper	7440-50-8	5	mg/kg		**45**	**10**	**24**	----	----
Lead	7439-92-1	5	mg/kg		<5	<5	<5	----	----
Nickel	7440-02-0	2	mg/kg		**6**	**8**	**11**	----	----
Zinc	7440-66-6	5	mg/kg		**48**	**43**	**200**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		<1	<1	<1	----	----
EK040T: Fluoride Total									
Fluoride	16984-48-8	0.004	%		----	----	----	**20.6**	**18.4**
Fluoride	16984-48-8	40	mg/kg		**1540**	**2110**	**3360**	----	----
EN33: TCLP Leach									
Initial pH	----	0.1	pH Unit		----	----	----	----	----
After HCl pH	----	0.1	pH Unit		----	----	----	----	----
Extraction Fluid Number	----	1	-		----	----	----	----	----
Final pH	----	0.1	pH Unit		----	----	----	----	----
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	----	----

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

				Client sample ID	REFRACTORY - B	REFRACTORY - C	REFRACTORY - D	LEDGE BATH 26/7/12 REPORTED %	ANODE COVER MATERIAL 11/9/15 REPORTED %
				Client sampling date / time	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]
Compound	CAS Number	LOR	Unit		ES1536568-006	ES1536568-007	ES1536568-008	ES1536568-009	ES1536568-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
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		<0.5	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
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	<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**	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**100**	**81.8**	**80.5**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**91.0**	**81.6**	**81.4**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**94.1**	**88.0**	**70.1**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**93.6**	**81.9**	**83.4**	----	----
Anthracene-d10	1719-06-8	0.5	%		**87.9**	**84.4**	**86.5**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**95.8**	**82.6**	**86.2**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ALUMINIUM FLUORIDE REPORTED %	REACTED ALUMINA REPORTED %	----	----	----
				Client sampling date / time	[18-Nov-2015]	[18-Nov-2015]	----	----	----
Compound	CAS Number	LOR	Unit		ES1536568-011	ES1536568-012	--------	--------	--------
					Result	Result	Result	Result	Result
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1	%		<1.0	**3.7**	----	----	----
ED093S: Soluble Major Cations									
Calcium	7440-70-2	0.001	%		<0.001	<0.001	----	----	----
Calcium	7440-70-2	10	mg/kg		----	----	----	----	----
Sodium	7440-23-5	0.001	%		**0.027**	**0.257**	----	----	----
Sodium	7440-23-5	10	mg/kg		----	----	----	----	----
EG005T: Total Metals by ICP-AES									
Aluminium	7429-90-5	0.005	%		**2.06**	**12.4**	----	----	----
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	----
Arsenic	7440-38-2	5	mg/kg		----	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		----	----	----	----	----
Chromium	7440-47-3	2	mg/kg		----	----	----	----	----
Copper	7440-50-8	5	mg/kg		----	----	----	----	----
Lead	7439-92-1	5	mg/kg		----	----	----	----	----
Nickel	7440-02-0	2	mg/kg		----	----	----	----	----
Zinc	7440-66-6	5	mg/kg		----	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	1	mg/kg		----	----	----	----	----
EK040T: Fluoride Total									
Fluoride	16984-48-8	0.004	%		**31.2**	**0.939**	----	----	----
Fluoride	16984-48-8	40	mg/kg		----	----	----	----	----
EN33: TCLP Leach									
Initial pH	----	0.1	pH Unit		----	----	----	----	----
After HCl pH	----	0.1	pH Unit		----	----	----	----	----
Extraction Fluid Number	----	1	-		----	----	----	----	----
Final pH	----	0.1	pH Unit		----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		----	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		----	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ALUMINIUM FLUORIDE REPORTED %	REACTED ALUMINA REPORTED %	----	----	----
				Client sampling date / time	[18-Nov-2015]	[18-Nov-2015]	----	----	----
Compound	CAS Number	LOR	Unit		ES1536568-011	ES1536568-012	--------	--------	--------
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Anthracene	120-12-7	0.5	mg/kg		----	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		----	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		----	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		----	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		----	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		----	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	----	----

Analytical Results

Sub-Matrix: **TCLP LEACHATE** (Matrix: **WATER**)			Client sample ID	**LEDGE BATH 26/7/12**	**ANODE COVER MATERIAL 11/9/15**	**ALUMINIUM FLUORIDE**	**REACTED ALUMINA**	**----**
			Client sampling date / time	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	[18-Nov-2015]	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES1536568-001**	**ES1536568-002**	**ES1536568-003**	**ES1536568-004**	**--------**
				Result	Result	Result	Result	Result
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	**151**	**240**	**44.8**	**260**	**----**

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1536568**	Page	: 1 of 9
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: PO BOX 560 NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: AS130456 ADDITIONAL SAMPLING	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 18-Nov-2015
C-O-C number	: ----	Date Analysis Commenced	: 07-Dec-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 15-Dec-2015
Site	: ----	No. of samples received	: 12
Quote number	: ----	No. of samples analysed	: 12

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

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

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been 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
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics, Mayfield West, NSW
Pabi Subba	Senior Organic Chemist	Sydney Inorganics, Smithfield, NSW
		Sydney Organics, Smithfield, NSW
Shobhna Chandra	Metals Coordinator	Sydney Inorganics, Smithfield, NSW

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 (%)*
EA055: Moisture Content (QC Lot: 304031)									
ES1536568-003	ALUMINIUM FLUORIDE	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	<1.0	<1.0	0.00	No Limit
ES1537696-005	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	11.7	12.2	3.71	0% - 50%
ED093S: Soluble Major Cations (QC Lot: 304790)									
ES1536568-004	REACTED ALUMINA	ED093S: Calcium	7440-70-2	10	mg/kg	<10	<10	0.00	No Limit
		ED093S: Sodium	7440-23-5	10	mg/kg	2540	2600	2.24	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 303194)									
ES1536568-001	LEDGE BATH 26/7/12	EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	347	328	5.68	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	29	27	6.74	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	7	6	17.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	9	19.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	12	9	35.1	No Limit
		EG005T: Aluminium	7429-90-5	50	mg/kg	84500	76800	9.50	0% - 20%
EW1512849-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	16	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	6	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	5	5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	20	16	22.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	26	19	31.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	30	35	12.7	No Limit
		EG005T: Aluminium	7429-90-5	50	mg/kg	11300	11200	1.18	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 305474)									
ES1538059-026	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	18	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	15	14	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	58	57	3.24	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	48	47	3.24	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	384	404	5.12	0% - 20%
		EG005T: Aluminium	7429-90-5	50	mg/kg	12100	12100	0.337	0% - 20%
ES1538059-036	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	25	26	0.00	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	17	18	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	9	15.4	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: 305474) - continued									
ES1538059-036	Anonymous	EG005T: Copper	7440-50-8	5	mg/kg	64	67	4.53	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	55	57	3.61	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	459	473	3.03	0% - 20%
		EG005T: Aluminium	7429-90-5	50	mg/kg	18100	18900	4.60	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 306688)									
ES1536568-005	REFRACTORY - A	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	23	23	0.00	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	40	42	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	63	56	12.3	0% - 50%
		EG005T: Aluminium	7429-90-5	50	mg/kg	7300	6410	12.9	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 306687)									
ES1536568-005	REFRACTORY - A	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 304337)									
ES1536568-005	REFRACTORY - A	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.00	No Limit
ES1537731-006	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	49	48	0.00	0% - 20%
EK040T: Fluoride Total (QC Lot: 309015)									
ES1536568-001	LEDGE BATH 26/7/12	EK040T: Fluoride	16984-48-8	40	mg/kg	206000	200000	2.77	0% - 20%
ES1536568-005	REFRACTORY - A	EK040T: Fluoride	16984-48-8	40	mg/kg	3210	2870	11.2	0% - 20%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 302791)									
ES1536568-005	REFRACTORY - A	EP075(SIM): Acenaphthene	83-32-9	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): Anthracene	120-12-7	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): Benzo(a)pyrene	50-32-8	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): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	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): Fluoranthene	206-44-0	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): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene	91-20-3	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

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: 302791) - continued									
ES1536568-005	REFRACTORY - A	EP075(SIM): Pyrene	129-00-0	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

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 (%)*
EK040P: Fluoride by PC Titrator (QC Lot: 305710)									
ES1536568-001	LEDGE BATH 26/7/12	EK040P: Fluoride	16984-48-8	0.1	mg/L	151	151	0.398	0% - 20%
ES1538320-006	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	0.8	0.8	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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED093S: Soluble Major Cations (QCLot: 304790)								
ED093S: Calcium	7440-70-2	10	mg/kg	<10	50 mg/kg	100	85	119
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	93.1	81	123
EG005T: Total Metals by ICP-AES (QCLot: 303194)								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	119	70	130
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	122	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	102	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	105	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	115	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	106	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	112	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	115	80	122
EG005T: Total Metals by ICP-AES (QCLot: 305474)								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	129	70	130
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	116	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	107	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	106	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	115	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	109	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	111	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	113	80	122
EG005T: Total Metals by ICP-AES (QCLot: 306688)								
EG005T: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	121	70	130
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	107	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	99.3	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	100	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	110	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	101	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	103	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	106	80	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 306687)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	74.5	70	105
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 304337)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	106	81	129
EK040T: Fluoride Total (QCLot: 309015)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EK040T: Fluoride Total (QCLot: 309015) - continued								
EK040T: Fluoride	16984-48-8	40	mg/kg	<40	950 mg/kg	87.6	69	107
EN33: TCLP Leach (QCLot: 303736)								
EN33a: After HCl pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33a: Final pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33a: Initial pH	----	0.1	pH Unit	1.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 302791)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	80.3	73	127
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	80.2	72	124
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	80.0	77	127
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	81.0	69	123
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	81.6	70	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	84.5	68	116
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	81.7	63	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	84.8	74	126
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	80.6	75	127
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	79.0	62	118
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	80.1	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	80.3	72	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	77.3	61	121
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	83.4	77	125
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	81.1	75	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	79.9	74	128

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EK040P: Fluoride by PC Titrator (QCLot: 305710)								
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	5 mg/L	90.4	82	116

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005T: Total Metals by ICP-AES (QCLot: 303194)							
ES1536568-002	ANODE COVER MATERIAL 11/9/15	EG005T: Arsenic	7440-38-2	50 mg/kg	124	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: 303194) - continued							
ES1536568-002	ANODE COVER MATERIAL 11/9/15	EG005T: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	100	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	123	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	103	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	# Not Determined	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	108	70	130
EG005T: Total Metals by ICP-AES (QCLot: 305474)							
ES1538059-026	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	97.7	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.5	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	92.8	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	98.4	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	95.5	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.4	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	91.8	70	130
EG005T: Total Metals by ICP-AES (QCLot: 306688)							
ES1536568-005	REFRACTORY - A	EG005T: Arsenic	7440-38-2	50 mg/kg	108	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	99.4	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	110	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	103	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	105	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	94.5	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 306687)							
ES1536568-005	REFRACTORY - A	EG035T: Mercury	7439-97-6	5 mg/kg	98.2	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 304337)							
ES1536568-005	REFRACTORY - A	EK026SF: Total Cyanide	57-12-5	20 mg/kg	99.0	70	130
EK040T: Fluoride Total (QCLot: 309015)							
ES1536568-001	LEDGE BATH 26/7/12	EK040T: Fluoride	16984-48-8	400 mg/kg	# Not Determined	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 302791)							
ES1536568-005	REFRACTORY - A	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	80.6	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	84.8	70	130

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

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
EK040P: Fluoride by PC Titrator (QCLot: 305710)							
ES1536568-002	ANODE COVER MATERIAL 11/9/15	EK040P: Fluoride	16984-48-8	5 mg/L	# Not Determined	70	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1536568**	Page	: 1 of 7
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Telephone	: +61-2-8784 8555
Project	: AS130456 ADDITIONAL SAMPLING	Date Samples Received	: 18-Nov-2015
Site	: ----	Issue Date	: 15-Dec-2015
Sampler	: MARK TIEDEMAN	No. of samples received	: 12
Order number	: ----	No. of samples analysed	: 12

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.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **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 : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG005T: Total Metals by ICP-AES	ES1536568--002	ANODE COVER MATERIAL 1	**Nickel**	7440-02-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK040T: Fluoride Total	ES1536568--001	LEDGE BATH 26/7/12	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK040P: Fluoride by PC Titrator	ES1536568--002	ANODE COVER MATERIAL 1	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EA055: Moisture Content						
Miscellaneous Plastic bottle -unpreserved						
LEDGE BATH 26/7/12, ANODE COVER MATERIAL 11/9/15, ALUMINIUM FLUORIDE, REACTED ALUMINA, LEDGE BATH 26/7/12 - REPORTED %, ANODE COVER MATERIAL 11/9/15 - REPORTED %, ALUMINIUM FLUORIDE - REPORTED %, REACTED ALUMINA - REPORTED %	----	----	----	09-Dec-2015	02-Dec-2015	**7**
Snap Lock Bag						
REFRACTORY - A, REFRACTORY - B, REFRACTORY - C, REFRACTORY - D	----	----	----	09-Dec-2015	02-Dec-2015	**7**
EK026SF: Total CN by Segmented Flow Analyser						
Snap Lock Bag						
REFRACTORY - A, REFRACTORY - B, REFRACTORY - C, REFRACTORY - D	12-Dec-2015	02-Dec-2015	**10**	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Snap Lock Bag						
REFRACTORY - A, REFRACTORY - B, REFRACTORY - C, REFRACTORY - D	10-Dec-2015	02-Dec-2015	**7**	----	----	----

Analysis Holding Time Compliance

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

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Miscellaneous Plastic bottle -unpreserved (EA055-103)							
LEDGE BATH 26/7/12, ANODE COVER MATERIAL 11/9/15, ALUMINIUM FLUORIDE, REACTED ALUMINA, LEDGE BATH 26/7/12 - REPORTED %, ANODE COVER MATERIAL 11/9/15 - REPORTED %, ALUMINIUM FLUORIDE - REPORTED %, REACTED ALUMINA - REPORTED %	**18-Nov-2015**	**----**	----	----	**09-Dec-2015**	02-Dec-2015	×
Snap Lock Bag (EA055-103)							
REFRACTORY - A, REFRACTORY - B, REFRACTORY - C, REFRACTORY - D	**18-Nov-2015**	**----**	----	----	**09-Dec-2015**	02-Dec-2015	×
ED093S: Soluble Major Cations							
Miscellaneous Plastic bottle -unpreserved (ED093S)							
LEDGE BATH 26/7/12, ANODE COVER MATERIAL 11/9/15, ALUMINIUM FLUORIDE, REACTED ALUMINA, LEDGE BATH 26/7/12 - REPORTED %, ANODE COVER MATERIAL 11/9/15 - REPORTED %, ALUMINIUM FLUORIDE - REPORTED %, REACTED ALUMINA - REPORTED %	**18-Nov-2015**	**10-Dec-2015**	16-May-2016	✓	**10-Dec-2015**	16-May-2016	✓
EG005T: Total Metals by ICP-AES							
Miscellaneous Plastic bottle -unpreserved (EG005T)							
LEDGE BATH 26/7/12, ANODE COVER MATERIAL 11/9/15, ALUMINIUM FLUORIDE, REACTED ALUMINA	**18-Nov-2015**	**08-Dec-2015**	16-May-2016	✓	**09-Dec-2015**	16-May-2016	✓
Miscellaneous Plastic bottle -unpreserved (EG005T)							
LEDGE BATH 26/7/12 - REPORTED %, ANODE COVER MATERIAL 11/9/15 - REPORTED %, ALUMINIUM FLUORIDE - REPORTED %, REACTED ALUMINA - REPORTED %	**18-Nov-2015**	**10-Dec-2015**	16-May-2016	✓	**11-Dec-2015**	16-May-2016	✓
Snap Lock Bag (EG005T)							
REFRACTORY - A, REFRACTORY - B, REFRACTORY - C, REFRACTORY - D	**18-Nov-2015**	**11-Dec-2015**	16-May-2016	✓	**11-Dec-2015**	16-May-2016	✓
EG035T: Total Recoverable Mercury by FIMS							
Snap Lock Bag (EG035T)							
REFRACTORY - A, REFRACTORY - B, REFRACTORY - C, REFRACTORY - D	**18-Nov-2015**	**11-Dec-2015**	16-Dec-2015	✓	**11-Dec-2015**	16-Dec-2015	✓
EK026SF: Total CN by Segmented Flow Analyser							
Snap Lock Bag (EK026SF)							
REFRACTORY - A, REFRACTORY - B, REFRACTORY - C, REFRACTORY - D	**18-Nov-2015**	**12-Dec-2015**	02-Dec-2015	×	**12-Dec-2015**	26-Dec-2015	✓

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
EK040T: Fluoride Total							
Pulp Bag (EK040T)							
LEDGE BATH 26/7/12, ALUMINIUM FLUORIDE, LEDGE BATH 26/7/12 - REPORTED %, ALUMINIUM FLUORIDE - REPORTED %, ANODE COVER MATERIAL 11/9/15, REACTED ALUMINA, ANODE COVER MATERIAL 11/9/15 - REPORTED %, REACTED ALUMINA - REPORTED %	**18-Nov-2015**	**07-Dec-2015**	16-Dec-2015	✓	**14-Dec-2015**	16-Dec-2015	✓
Pulp Bag (EK040T)							
REFRACTORY - A, REFRACTORY - B, REFRACTORY - C, REFRACTORY - D	**18-Nov-2015**	**10-Dec-2015**	16-Dec-2015	✓	**14-Dec-2015**	16-Dec-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Snap Lock Bag (EP075(SIM))							
REFRACTORY - A, REFRACTORY - B, REFRACTORY - C, REFRACTORY - D	**18-Nov-2015**	**10-Dec-2015**	02-Dec-2015	×	**10-Dec-2015**	19-Jan-2016	✓

Matrix: **WATER**

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
EK040P: Fluoride by PC Titrator							
Clear Plastic Bottle - Natural (EK040P)							
LEDGE BATH 26/7/12, ALUMINIUM FLUORIDE, ANODE COVER MATERIAL 11/9/15, REACTED ALUMINA	**09-Dec-2015**	**----**	----	----	**10-Dec-2015**	06-Jan-2016	✓

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)							
PAH/Phenols (SIM)	EP075(SIM)	15	83	**18.07**	**9.48**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	9	83	**10.84**	**4.74**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	8	83	**9.64**	**4.74**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	8	83	**9.64**	**3.79**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Cations - soluble by ICP-AES	ED093S	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010 (ICPAES) Water extracts of the soil are analyzed for major cations by ICPAES. 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 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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Fluoride by PC Titrator	EK040P	SOIL	In house: Referenced to APHA 4500 F--C CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM (2013) Schedule B(3)
Total Fluoride	EK040T	SOIL	(In-house) Total fluoride is determined by ion specific electrode (ISE) in a solution obtained after a Sodium Carbonate / Potassium Carbonate fusion dissolution.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) 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)

Preparation Methods	Method	Matrix	Method Descriptions
Total Fluoride	EK040T-PR	SOIL	(In-house) Samples are fused with Sodium Carbonate / Potassium Carbonate flux.
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.

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

RAMBOLL ENVIRON

Chain of Custody & Analysis Request Form

Ramboll Environ
Level 2, Suite 19B, 50 Glebe Road
The Junction NSW 2291

Tel: 02 49625444
Email: mtiedeman@environcorp.com
Email: frobinson@environcorp.com

Laboratory Details
Lab. Name: ALS
Lab. Address: 277-289 Woodpark Road, Smithfield NSW
Contact Name:
Lab. Ref: ES1536568.
Tel: 02 8784 8555
Fax: 02 8784 8500
Final Report by:
Lab Quote No:

Project Additional sampling
Project Number: AS130456
Purchase Order Number:

Sample collected by: Mark Tiedeman
Sample Results to be returned to: mtiedeman@environcorp.com; frobinson@environcorp.com

Specifications:	(Tick)		
1. Urgent TAT required? (please circle: 24hr 48hr _____days) STANDARD	☐ Yes	☐ No	☐ N/A
2. Fast TAT Guarantee Required?	☐ Yes	☑ No	☐ N/A
3. Is any sediment layer present in waters to be excluded from extractions?	☐ Yes	☐ No	☐ N/A
4. Special storage requirements?	☐ Yes	☑ No	☐ N/A
5. Preservation requirements?	☐ Yes	☐ No	☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☑ Email	☐ Yes	☐ No	☐ N/A

7. Report Format: esdat / excel / pdf
8. Project Manager: Neil Woodridge tel:

Lab. ID	Sample ID	Sampling Date	Sampling Time	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	Mercury	Cadmium	Lead	Chromium (total)	Arsenic	Copper	Nickel	Zinc	Fluoride (total)	PAHs (including Benzo(a)pyrene)	Cyanides (total)	Sodium	Calcium	Aluminium	Leachable Fluoride	Remarks & comments
1	Ledge Bath 26/7/12	18/11/2015		x																x			x	x	x	x	Report as mg/kg and %
2	Anode Cover Material 11/9/15	18/11/2015		x																x			x	x	x	x	Report as mg/kg and %
3	Aluminium Fluoride	18/11/2015		x																x			x	x	x	x	Report as mg/kg and %
4	Reacted Alumina	18/11/2015		x																x			x	x	x	x	Report as mg/kg and %
5	Refractory - A	18/11/2015		x								x	x	x	x	x	x	x	x	x	x	x					
6	Refractory - B	18/11/2015		x								x	x	x	x	x	x	x	x	x	x	x					
7	Refractory - C	18/11/2015		x								x	x	x	x	x	x	x	x	x	x	x					
8	Refractory - D	18/11/2015		x								x	x	x	x	x	x	x	x	x	x	x					

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / Bot Fluoride
Organised By / Date: 10-8
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

☐ Courier ☐ Postal ☐ By Hand

Environmental Division
Sydney
Work Order Reference
ES1536568

Telephone : +61-2-8784 8555

Relinquished
Mark Tiedeman
of: Ramboll Er

Received by:
Name: UPDATED COC RECEIVED
Date: 3/12
of: ALS
Time: 1703.

Received in good condition?	Yes/No/NA	Method of Shipment	
Samples received chilled?	Yes/No/NA	Consignment Note No. ☐ Courier ☐ Postal ☐ By Hand	
	Yes/No/NA	Transport Co:	

Relinquished by:
Name: Date:
of: Time:
Environment

Received by: W-SALEH
Name: Date:
of: Time:

Received in good condition?	Yes/No/NA	Method of Shipment	
Samples received chilled?	Yes/No/NA	Consignment Note No.	
	Yes/No/NA	Transport Co:	

Printed copies of this document are uncontrolled

Revision: Oct 09
BMS-PM-DV-F046

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1537731**	Page	: 1 of 27
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: PO BOX 560 NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: A5130456 CWS	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 04-Dec-2015 11:00
C-O-C number	: ----	Date Analysis Commenced	: 07-Dec-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 15-Dec-2015 18:06
Site	: ----		
		No. of samples received	: 21
Quote number	: ----	No. of samples analysed	: 21

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Pabi Subba	Senior Organic Chemist	Sydney Organics, Smithfield, NSW
Shobhna Chandra	Metals Coordinator	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	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.

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.

- EP075: Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly.
- EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- 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	MW201_3.0	MW201_6.0	MW201_9.0	MW202_2.0	MW202_6.5
			Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit	ES1537731-001	ES1537731-002	ES1537731-003	ES1537731-004	ES1537731-005
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	9.1	9.6	9.9	11.4	10.2
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	14.3	10.3	17.1	9.0	20.0
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	<0.2	<0.2	<0.2	<0.2	<0.2
Exchangeable Magnesium	----	0.2	meq/100g	<0.2	<0.2	<0.2	<0.2	<0.2
Exchangeable Potassium	----	0.2	meq/100g	0.6	0.3	0.6	<0.2	0.4
Exchangeable Sodium	----	0.2	meq/100g	30.1	25.5	39.3	53.4	49.8
Cation Exchange Capacity	----	0.2	meq/100g	30.8	26.0	40.0	----	50.2
Exchangeable Calcium Percent	----	0.2	%	<0.2	<0.2	<0.2	0.5	<0.2
Exchangeable Magnesium Percent	----	0.2	%	<0.2	<0.2	<0.2	<0.2	<0.2
Exchangeable Potassium Percent	----	0.2	%	2.1	1.5	1.6	0.2	0.8
Exchangeable Sodium Percent	----	0.2	%	97.9	98.5	98.4	99.3	99.2
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	<0.2	----
Magnesium/Potassium Ratio	----	0.2	-	<0.2	<0.2	<0.2	----	<0.2
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	----
ED093S: Soluble Major Cations								
Sodium	7440-23-5	10	mg/kg	3300	3810	7240	14500	14800
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	14	86	78	33	50
EK040S: Fluoride Soluble								
Fluoride	16984-48-8	1	mg/kg	2440	2220	3030	21100	3220
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<3.0	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<3.0	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<3.0	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<6.0	----	----	----	<0.6
2-Nitrophenol	88-75-5	0.5	mg/kg	<3.0	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<3.0	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW201_3.0	MW201_6.0	MW201_9.0	MW202_2.0	MW202_6.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-001	ES1537731-002	ES1537731-003	ES1537731-004	ES1537731-005
					Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued									
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<3.0	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<3.0	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<3.0	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<3.0	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<3.0	----	----	----	<0.5
Pentachlorophenol	87-86-5	1	mg/kg		<6	----	----	----	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<3.0	----	----	----	**1.0**
2-Methylnaphthalene	91-57-6	0.5	mg/kg		**5.3**	----	----	----	**0.9**
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<3.0	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<3.0	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		**15.3**	----	----	----	**2.2**
Fluorene	86-73-7	0.5	mg/kg		**7.1**	----	----	----	**1.0**
Phenanthrene	85-01-8	0.5	mg/kg		**57.9**	----	----	----	**9.9**
Anthracene	120-12-7	0.5	mg/kg		**12.3**	----	----	----	**2.2**
Fluoranthene	206-44-0	0.5	mg/kg		**148**	----	----	----	**27.3**
Pyrene	129-00-0	0.5	mg/kg		**126**	----	----	----	**24.1**
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<3.0	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		**132**	----	----	----	**21.7**
Chrysene	218-01-9	0.5	mg/kg		**116**	----	----	----	**19.9**
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		**238**	----	----	----	**42**
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<3.0	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**124**	----	----	----	**22.9**
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<3.0	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		**56.3**	----	----	----	**9.0**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		**17.0**	----	----	----	**3.4**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		**59.5**	----	----	----	**9.4**
^ Sum of PAHs	----	0.5	mg/kg		**1110**	----	----	----	**196**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**185**	----	----	----	**33.9**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**185**	----	----	----	**33.9**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**185**	----	----	----	**33.9**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<3.0	----	----	----	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<3.0	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW201_3.0	MW201_6.0	MW201_9.0	MW202_2.0	MW202_6.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-001	ES1537731-002	ES1537731-003	ES1537731-004	ES1537731-005
					Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued									
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<3.0	----	----	----	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<3.0	----	----	----	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg		<5.0	----	----	----	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<3.0	----	----	----	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<3.0	----	----	----	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<3.0	----	----	----	<0.5
N-Nitrosopyrrolidine	930-55-2	1	mg/kg		<3.0	----	----	----	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<3.0	----	----	----	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<3.0	----	----	----	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<3.0	----	----	----	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<3.0	----	----	----	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	mg/kg		<6.0	----	----	----	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<3.0	----	----	----	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<3.0	----	----	----	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<3.0	----	----	----	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<3.0	----	----	----	<0.5
Isophorone	78-59-1	0.5	mg/kg		<3.0	----	----	----	<0.5
2.6-Dinitrotoluene	606-20-2	1	mg/kg		<3.0	----	----	----	<1.0
2.4-Dinitrotoluene	121-14-2	1	mg/kg		<3.0	----	----	----	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<3.0	----	----	----	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<3.0	----	----	----	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<3.0	----	----	----	<0.5
Azobenzene	103-33-3	1	mg/kg		<3	----	----	----	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<3.0	----	----	----	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<3.0	----	----	----	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<3.0	----	----	----	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<3.0	----	----	----	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<3.0	----	----	----	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<3.0	----	----	----	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<3.0	----	----	----	<0.5
EP075F: Haloethers									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW201_3.0	MW201_6.0	MW201_9.0	MW202_2.0	MW202_6.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-001	ES1537731-002	ES1537731-003	ES1537731-004	ES1537731-005
					Result	Result	Result	Result	Result
EP075F: Haloethers - Continued									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<3.0	----	----	----	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<3.0	----	----	----	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<3.0	----	----	----	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<3.0	----	----	----	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<3.0	----	----	----	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<3.0	----	----	----	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<3.0	----	----	----	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg		<3.0	----	----	----	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<3.0	----	----	----	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<3.0	----	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<3.0	----	----	----	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<3.0	----	----	----	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<3.0	----	----	----	<0.5
Hexachlorobenzene (HCB)	118-74-1	1	mg/kg		<3.0	----	----	----	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<3.0	----	----	----	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		<3.0	----	----	----	<0.5
2-Nitroaniline	88-74-4	1	mg/kg		<3.0	----	----	----	<1.0
3-Nitroaniline	99-09-2	1	mg/kg		<3.0	----	----	----	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		**7.3**	----	----	----	**1.1**
4-Nitroaniline	100-01-6	0.5	mg/kg		<3.0	----	----	----	<0.5
Carbazole	86-74-8	0.5	mg/kg		**10.6**	----	----	----	**1.7**
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<3.0	----	----	----	<0.5
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		<3.0	----	----	----	<0.5
beta-BHC	319-85-7	0.5	mg/kg		<3.0	----	----	----	<0.5
gamma-BHC	58-89-9	0.5	mg/kg		<3.0	----	----	----	<0.5
delta-BHC	319-86-8	0.5	mg/kg		<3.0	----	----	----	<0.5
Heptachlor	76-44-8	0.5	mg/kg		<3.0	----	----	----	<0.5
Aldrin	309-00-2	0.5	mg/kg		<3.0	----	----	----	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg		<3.0	----	----	----	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg		<3.0	----	----	----	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg		<3.0	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW201_3.0	MW201_6.0	MW201_9.0	MW202_2.0	MW202_6.5
			Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit	ES1537731-001	ES1537731-002	ES1537731-003	ES1537731-004	ES1537731-005
				Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued								
Dieldrin	60-57-1	0.5	mg/kg	<3.0	----	----	----	<0.5
Endrin	72-20-8	0.5	mg/kg	<3.0	----	----	----	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg	<3.0	----	----	----	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg	<3.0	----	----	----	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<3.0	----	----	----	<0.5
4.4`-DDT	50-29-3	1	mg/kg	<3.0	----	----	----	<1.0
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	mg/kg	<2.4	----	----	----	<0.5
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	mg/kg	<2.4	----	----	----	<0.5
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<3.0	----	----	----	<0.5
Dimethoate	60-51-5	0.5	mg/kg	<3.0	----	----	----	<0.5
Diazinon	333-41-5	0.5	mg/kg	<3.0	----	----	----	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<3.0	----	----	----	<0.5
Malathion	121-75-5	0.5	mg/kg	<3.0	----	----	----	<0.5
Fenthion	55-38-9	0.5	mg/kg	<3.0	----	----	----	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg	<3.0	----	----	----	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<3.0	----	----	----	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg	<3.0	----	----	----	<0.5
Prothiofos	34643-46-4	0.5	mg/kg	<3.0	----	----	----	<0.5
Ethion	563-12-2	0.5	mg/kg	<3.0	----	----	----	<0.5
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	**90.6**	----	----	----	**92.0**
Phenol-d6	13127-88-3	0.5	%	**82.4**	----	----	----	**94.7**
2-Chlorophenol-D4	93951-73-6	0.5	%	**82.5**	----	----	----	**95.6**
2.4.6-Tribromophenol	118-79-6	0.5	%	**56.2**	----	----	----	**76.0**
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	**73.4**	----	----	----	**82.8**
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	**80.6**	----	----	----	**88.2**
2-Fluorobiphenyl	321-60-8	0.5	%	**86.0**	----	----	----	**99.4**
Anthracene-d10	1719-06-8	0.5	%	**89.9**	----	----	----	**94.9**
4-Terphenyl-d14	1718-51-0	0.5	%	**88.0**	----	----	----	**98.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW202_9.8	MW203_2.5	MW203_7.0	MW203_9.0	MW204_2.5
			Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit	ES1537731-006	ES1537731-007	ES1537731-008	ES1537731-009	ES1537731-010
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	10.1	9.7	9.8	11.4	6.3
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	31.0	29.2	13.8	13.6	16.8
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	<0.2	<0.2	<0.2	0.4	<0.2
Exchangeable Magnesium	----	0.2	meq/100g	<0.2	<0.2	<0.2	<0.2	<0.2
Exchangeable Potassium	----	0.2	meq/100g	1.0	1.0	0.6	0.9	<0.2
Exchangeable Sodium	----	0.2	meq/100g	29.2	32.2	54.3	78.3	16.5
Cation Exchange Capacity	----	0.2	meq/100g	30.4	33.3	55.2	79.7	18.6
Exchangeable Calcium Percent	----	0.2	%	0.8	<0.2	0.4	0.6	10.7
Exchangeable Magnesium Percent	----	0.2	%	<0.2	<0.2	<0.2	<0.2	<0.2
Exchangeable Potassium Percent	----	0.2	%	3.3	3.1	1.2	1.1	0.7
Exchangeable Sodium Percent	----	0.2	%	95.8	96.9	98.4	98.2	88.6
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	<0.2
Magnesium/Potassium Ratio	----	0.2	-	<0.2	<0.2	<0.2	<0.2	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	----
ED093S: Soluble Major Cations								
Sodium	7440-23-5	10	mg/kg	2990	5960	4660	16400	8040
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	49	158	35	70	20
EK040S: Fluoride Soluble								
Fluoride	16984-48-8	1	mg/kg	1500	3560	3120	21000	184
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	----	<0.6	<0.6
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW202_9.8	MW203_2.5	MW203_7.0	MW203_9.0	MW204_2.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-006	ES1537731-007	ES1537731-008	ES1537731-009	ES1537731-010
					Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued									
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	----	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	----	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	----	----	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	----	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	----	<0.5	<0.5
Pentachlorophenol	87-86-5	1	mg/kg		----	----	----	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	----	----	<0.5	<0.5
2-Methylnaphthalene	91-57-6	0.5	mg/kg		----	----	----	<0.5	<0.5
2-Chloronaphthalene	91-58-7	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	**8.3**
Anthracene	120-12-7	0.5	mg/kg		----	----	----	<0.5	**1.0**
Fluoranthene	206-44-0	0.5	mg/kg		----	----	----	**0.5**	**47.0**
Pyrene	129-00-0	0.5	mg/kg		----	----	----	<0.5	**22.9**
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	----	----	<0.5	**19.5**
Chrysene	218-01-9	0.5	mg/kg		----	----	----	<0.5	**52.5**
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		----	----	----	<1	**55**
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		----	----	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	----	----	<0.5	**5.1**
3-Methylcholanthrene	56-49-5	0.5	mg/kg		----	----	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	----	----	<0.5	**5.6**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	----	----	<0.5	**2.6**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	----	----	<0.5	**5.4**
^ Sum of PAHs	----	0.5	mg/kg		----	----	----	**0.5**	**225**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	----	----	<0.5	**16.3**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	----	----	**0.6**	**16.3**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	----	----	**1.2**	**16.3**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		----	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW202_9.8	MW203_2.5	MW203_7.0	MW203_9.0	MW204_2.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-006	ES1537731-007	ES1537731-008	ES1537731-009	ES1537731-010
					Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued									
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		----	----	----	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		----	----	----	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg		----	----	----	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		----	----	----	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		----	----	----	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		----	----	----	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1	mg/kg		----	----	----	<1.0	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		----	----	----	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		----	----	----	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		----	----	----	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		----	----	----	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	mg/kg		----	----	----	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		----	----	----	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		----	----	----	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		----	----	----	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		----	----	----	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1	mg/kg		----	----	----	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1	mg/kg		----	----	----	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		----	----	----	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		----	----	----	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		----	----	----	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		----	----	----	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		----	----	----	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		----	----	----	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		----	----	----	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		----	----	----	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		----	----	----	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		----	----	----	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		----	----	----	<0.5	<0.5
EP075F: Haloethers									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW202_9.8	MW203_2.5	MW203_7.0	MW203_9.0	MW204_2.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-006	ES1537731-007	ES1537731-008	ES1537731-009	ES1537731-010
					Result	Result	Result	Result	Result
EP075F: Haloethers - Continued									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		----	----	----	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		----	----	----	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		----	----	----	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		----	----	----	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
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
Hexachloroethane	67-72-1	0.5	mg/kg		----	----	----	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		----	----	----	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		----	----	----	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		----	----	----	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		----	----	----	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		----	----	----	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1	mg/kg		----	----	----	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		----	----	----	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		----	----	----	<0.5	<0.5
2-Nitroaniline	88-74-4	1	mg/kg		----	----	----	<1.0	<1.0
3-Nitroaniline	99-09-2	1	mg/kg		----	----	----	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		----	----	----	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		----	----	----	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		----	----	----	<0.5	1.1
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		----	----	----	<0.5	<0.5
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		----	----	----	<0.5	<0.5
beta-BHC	319-85-7	0.5	mg/kg		----	----	----	<0.5	<0.5
gamma-BHC	58-89-9	0.5	mg/kg		----	----	----	<0.5	<0.5
delta-BHC	319-86-8	0.5	mg/kg		----	----	----	<0.5	<0.5
Heptachlor	76-44-8	0.5	mg/kg		----	----	----	<0.5	<0.5
Aldrin	309-00-2	0.5	mg/kg		----	----	----	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg		----	----	----	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg		----	----	----	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg		----	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW202_9.8	MW203_2.5	MW203_7.0	MW203_9.0	MW204_2.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-006	ES1537731-007	ES1537731-008	ES1537731-009	ES1537731-010
					Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued									
Dieldrin	60-57-1	0.5	mg/kg		----	----	----	<0.5	<0.5
Endrin	72-20-8	0.5	mg/kg		----	----	----	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg		----	----	----	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg		----	----	----	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg		----	----	----	<0.5	<0.5
4.4`-DDT	50-29-3	1	mg/kg		----	----	----	<1.0	<1.0
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	mg/kg		----	----	----	<0.5	<0.5
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		----	----	----	<0.5	<0.5
Dimethoate	60-51-5	0.5	mg/kg		----	----	----	<0.5	<0.5
Diazinon	333-41-5	0.5	mg/kg		----	----	----	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		----	----	----	<0.5	<0.5
Malathion	121-75-5	0.5	mg/kg		----	----	----	<0.5	<0.5
Fenthion	55-38-9	0.5	mg/kg		----	----	----	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg		----	----	----	<0.5	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		----	----	----	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg		----	----	----	<0.5	<0.5
Prothiofos	34643-46-4	0.5	mg/kg		----	----	----	<0.5	<0.5
Ethion	563-12-2	0.5	mg/kg		----	----	----	<0.5	<0.5
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		----	----	----	**99.0**	**106**
Phenol-d6	13127-88-3	0.5	%		----	----	----	**97.9**	**99.5**
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	**88.3**	**98.3**
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	----	**57.0**	**100**
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		----	----	----	**84.2**	**84.8**
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		----	----	----	**89.0**	**90.8**
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	**99.2**	**94.2**
Anthracene-d10	1719-06-8	0.5	%		----	----	----	**60.2**	**98.7**
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	**59.7**	**108**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW204_6.0 MW204_	MW204_9.0 MW204_11.0	MW205_5.5	MW205_9.0	MW205_11.3
			Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit	ES1537731-011	ES1537731-012	ES1537731-013	ES1537731-014	ES1537731-015
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	10.7	11.3	8.3	10.7	9.4
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	15.6	13.8	11.1	8.6	11.4
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	<0.2	<0.2	<0.2	<0.2	<0.2
Exchangeable Magnesium	----	0.2	meq/100g	<0.2	<0.2	<0.2	<0.2	<0.2
Exchangeable Potassium	----	0.2	meq/100g	0.6	0.6	<0.2	<0.2	0.5
Exchangeable Sodium	----	0.2	meq/100g	63.2	76.4	4.6	17.5	23.0
Cation Exchange Capacity	----	0.2	meq/100g	63.9	77.5	5.0	17.9	23.5
Exchangeable Calcium Percent	----	0.2	%	<0.2	0.3	5.0	1.4	<0.2
Exchangeable Magnesium Percent	----	0.2	%	<0.2	<0.2	<0.2	<0.2	<0.2
Exchangeable Potassium Percent	----	0.2	%	1.0	0.8	2.6	0.7	2.2
Exchangeable Sodium Percent	----	0.2	%	99.0	98.8	92.3	97.9	97.8
Magnesium/Potassium Ratio	----	0.2	-	----	----	<0.2	<0.2	----
Magnesium/Potassium Ratio	----	0.2	-	<0.2	<0.2	----	----	<0.2
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	----
ED093S: Soluble Major Cations								
Sodium	7440-23-5	10	mg/kg	16400	18000	1510	7250	3870
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	72	45	77	56	71
EK040S: Fluoride Soluble								
Fluoride	16984-48-8	1	mg/kg	10500	18400	1240	12700	1740
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	----	<3.0
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	----	<3.0
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	----	<3.0
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	----	----	<6.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	----	<3.0
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	----	<3.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW204_6.0 MW204_	MW204_9.0 MW204_11.0	MW205_5.5	MW205_9.0	MW205_11.3
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-011	ES1537731-012	ES1537731-013	ES1537731-014	ES1537731-015
					Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued									
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	----	----	<3.0
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	----	----	<3.0
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	----	----	----	<3.0
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	----	----	<3.0
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	----	----	<3.0
Pentachlorophenol	87-86-5	1	mg/kg		----	----	----	----	<6
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	----	----	----	**3.8**
2-Methylnaphthalene	91-57-6	0.5	mg/kg		----	----	----	----	**7.4**
2-Chloronaphthalene	91-58-7	0.5	mg/kg		----	----	----	----	<3.0
Acenaphthylene	208-96-8	0.5	mg/kg		----	----	----	----	<3.0
Acenaphthene	83-32-9	0.5	mg/kg		----	----	----	----	**27.0**
Fluorene	86-73-7	0.5	mg/kg		----	----	----	----	**9.9**
Phenanthrene	85-01-8	0.5	mg/kg		----	----	----	----	**186**
Anthracene	120-12-7	0.5	mg/kg		----	----	----	----	**44.8**
Fluoranthene	206-44-0	0.5	mg/kg		----	----	----	----	**739**
Pyrene	129-00-0	0.5	mg/kg		----	----	----	----	**706**
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		----	----	----	----	<3.0
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	----	----	----	**731**
Chrysene	218-01-9	0.5	mg/kg		----	----	----	----	**626**
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		----	----	----	----	**1330**
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		----	----	----	----	<3.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	----	----	----	**832**
3-Methylcholanthrene	56-49-5	0.5	mg/kg		----	----	----	----	**15.5**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	----	----	----	**442**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	----	----	----	**116**
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	----	----	----	**528**
^ Sum of PAHs	----	0.5	mg/kg		----	----	----	----	**6320**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	----	----	----	**1210**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	----	----	----	**1210**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	----	----	----	**1210**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		----	----	----	----	<3.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW204_6.0 MW204_	MW204_9.0 MW204_11.0	MW205_5.5	MW205_9.0	MW205_11.3
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-011	ES1537731-012	ES1537731-013	ES1537731-014	ES1537731-015
					Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued									
Diethyl phthalate	84-66-2	0.5	mg/kg		----	----	----	----	<3.0
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		----	----	----	----	<3.0
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		----	----	----	----	<3.0
bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg		----	----	----	----	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		----	----	----	----	<3.0
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		----	----	----	----	<3.0
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		----	----	----	----	<3.0
N-Nitrosopyrrolidine	930-55-2	1	mg/kg		----	----	----	----	<3.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		----	----	----	----	<3.0
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		----	----	----	----	<3.0
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		----	----	----	----	<3.0
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		----	----	----	----	<3.0
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	mg/kg		----	----	----	----	<6.0
Methapyrilene	91-80-5	0.5	mg/kg		----	----	----	----	<3.0
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		----	----	----	----	<3.0
Acetophenone	98-86-2	0.5	mg/kg		----	----	----	----	<3.0
Nitrobenzene	98-95-3	0.5	mg/kg		----	----	----	----	<3.0
Isophorone	78-59-1	0.5	mg/kg		----	----	----	----	<3.0
2.6-Dinitrotoluene	606-20-2	1	mg/kg		----	----	----	----	<3.0
2.4-Dinitrotoluene	121-14-2	1	mg/kg		----	----	----	----	<3.0
1-Naphthylamine	134-32-7	0.5	mg/kg		----	----	----	----	<3.0
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		----	----	----	----	<3.0
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		----	----	----	----	<3.0
Azobenzene	103-33-3	1	mg/kg		----	----	----	----	<3
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		----	----	----	----	<3.0
Phenacetin	62-44-2	0.5	mg/kg		----	----	----	----	<3.0
4-Aminobiphenyl	92-67-1	0.5	mg/kg		----	----	----	----	<3.0
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		----	----	----	----	<3.0
Pronamide	23950-58-5	0.5	mg/kg		----	----	----	----	<3.0
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		----	----	----	----	<3.0
Chlorobenzilate	510-15-6	0.5	mg/kg		----	----	----	----	<3.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW204_6.0 MW204_	MW204_9.0 MW204_11.0	MW205_5.5	MW205_9.0	MW205_11.3
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-011	ES1537731-012	ES1537731-013	ES1537731-014	ES1537731-015
					Result	Result	Result	Result	Result
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		----	----	----	----	<3.0
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		----	----	----	----	<3.0
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		----	----	----	----	<3.0
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		----	----	----	----	<3.0
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		----	----	----	----	<3.0
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		----	----	----	----	<3.0
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		----	----	----	----	<3.0
Hexachloroethane	67-72-1	0.5	mg/kg		----	----	----	----	<3.0
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		----	----	----	----	<3.0
Hexachloropropylene	1888-71-7	0.5	mg/kg		----	----	----	----	<3.0
Hexachlorobutadiene	87-68-3	0.5	mg/kg		----	----	----	----	<3.0
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		----	----	----	----	<3.0
Pentachlorobenzene	608-93-5	0.5	mg/kg		----	----	----	----	<3.0
Hexachlorobenzene (HCB)	118-74-1	1	mg/kg		----	----	----	----	<3.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		----	----	----	----	<3.0
4-Chloroaniline	106-47-8	0.5	mg/kg		----	----	----	----	<3.0
2-Nitroaniline	88-74-4	1	mg/kg		----	----	----	----	<3.0
3-Nitroaniline	99-09-2	1	mg/kg		----	----	----	----	<3.0
Dibenzofuran	132-64-9	0.5	mg/kg		----	----	----	----	**7.5**
4-Nitroaniline	100-01-6	0.5	mg/kg		----	----	----	----	<3.0
Carbazole	86-74-8	0.5	mg/kg		----	----	----	----	**46.7**
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		----	----	----	----	<3.0
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		----	----	----	----	<3.0
beta-BHC	319-85-7	0.5	mg/kg		----	----	----	----	<3.0
gamma-BHC	58-89-9	0.5	mg/kg		----	----	----	----	<3.0
delta-BHC	319-86-8	0.5	mg/kg		----	----	----	----	<3.0
Heptachlor	76-44-8	0.5	mg/kg		----	----	----	----	<3.0
Aldrin	309-00-2	0.5	mg/kg		----	----	----	----	<3.0
Heptachlor epoxide	1024-57-3	0.5	mg/kg		----	----	----	----	<3.0
alpha-Endosulfan	959-98-8	0.5	mg/kg		----	----	----	----	<3.0
4.4`-DDE	72-55-9	0.5	mg/kg		----	----	----	----	<3.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW204_6.0 MW204_	MW204_9.0 MW204_11.0	MW205_5.5	MW205_9.0	MW205_11.3
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-011	ES1537731-012	ES1537731-013	ES1537731-014	ES1537731-015
					Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued									
Dieldrin	60-57-1	0.5	mg/kg		----	----	----	----	<3.0
Endrin	72-20-8	0.5	mg/kg		----	----	----	----	<3.0
beta-Endosulfan	33213-65-9	0.5	mg/kg		----	----	----	----	<3.0
4.4`-DDD	72-54-8	0.5	mg/kg		----	----	----	----	<3.0
Endosulfan sulfate	1031-07-8	0.5	mg/kg		----	----	----	----	<3.0
4.4`-DDT	50-29-3	1	mg/kg		----	----	----	----	<3.0
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	mg/kg		----	----	----	----	<2.4
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	mg/kg		----	----	----	----	<2.4
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		----	----	----	----	<3.0
Dimethoate	60-51-5	0.5	mg/kg		----	----	----	----	<3.0
Diazinon	333-41-5	0.5	mg/kg		----	----	----	----	<3.0
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		----	----	----	----	<3.0
Malathion	121-75-5	0.5	mg/kg		----	----	----	----	<3.0
Fenthion	55-38-9	0.5	mg/kg		----	----	----	----	<3.0
Chlorpyrifos	2921-88-2	0.5	mg/kg		----	----	----	----	<3.0
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		----	----	----	----	<3.0
Chlorfenvinphos	470-90-6	0.5	mg/kg		----	----	----	----	<3.0
Prothiofos	34643-46-4	0.5	mg/kg		----	----	----	----	<3.0
Ethion	563-12-2	0.5	mg/kg		----	----	----	----	<3.0
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		----	----	----	----	**90.0**
Phenol-d6	13127-88-3	0.5	%		----	----	----	----	**83.7**
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	----	**78.2**
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	----	----	**49.7**
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		----	----	----	----	**74.4**
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		----	----	----	----	**81.4**
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	----	**86.8**
Anthracene-d10	1719-06-8	0.5	%		----	----	----	----	**89.9**
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	----	**97.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW206_3.0	MW206_7.0	MW206_11.0	QA100	QA101
			Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit	ES1537731-016	ES1537731-017	ES1537731-018	ES1537731-019	ES1537731-020
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	10.4	9.6	9.8	9.4	6.4
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	21.5	16.6	20.9	21.6	21.8
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	<0.2	<0.2	<0.2	<0.2	----
Exchangeable Magnesium	----	0.2	meq/100g	<0.2	<0.2	<0.2	<0.2	----
Exchangeable Potassium	----	0.2	meq/100g	1.6	1.0	1.9	1.2	----
Exchangeable Sodium	----	0.2	meq/100g	68.8	38.5	53.4	34.4	----
Cation Exchange Capacity	----	0.2	meq/100g	70.7	39.6	55.8	36.1	----
Exchangeable Calcium Percent	----	0.2	%	0.4	<0.2	0.4	1.4	----
Exchangeable Magnesium Percent	----	0.2	%	<0.2	<0.2	<0.2	<0.2	----
Exchangeable Potassium Percent	----	0.2	%	2.4	2.6	3.4	3.2	----
Exchangeable Sodium Percent	----	0.2	%	97.3	97.4	96.1	95.4	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	<0.2	<0.2	<0.2	<0.2	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	----	22.8
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	----	0.2
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	----	0.1
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	----	17.5
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	----	42.8
ED093S: Soluble Major Cations								
Sodium	7440-23-5	10	mg/kg	12200	2960	5450	3260	6770
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	139	110	57	142	23
EK040S: Fluoride Soluble								
Fluoride	16984-48-8	1	mg/kg	5470	2390	2410	2610	192
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<3.0	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<3.0	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<3.0	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	<6.0	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<3.0	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<3.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW206_3.0	MW206_7.0	MW206_11.0	QA100	QA101
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-016	ES1537731-017	ES1537731-018	ES1537731-019	ES1537731-020
					Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued									
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	<3.0	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	<3.0	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	----	<3.0	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	<3.0	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	<3.0	----	----
Pentachlorophenol	87-86-5	1	mg/kg		----	----	<6	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	----	**8.1**	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg		----	----	**31.0**	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg		----	----	<3.0	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	----	<3.0	----	----
Acenaphthene	83-32-9	0.5	mg/kg		----	----	**41.7**	----	----
Fluorene	86-73-7	0.5	mg/kg		----	----	**25.5**	----	----
Phenanthrene	85-01-8	0.5	mg/kg		----	----	**212**	----	----
Anthracene	120-12-7	0.5	mg/kg		----	----	**105**	----	----
Fluoranthene	206-44-0	0.5	mg/kg		----	----	**508**	----	----
Pyrene	129-00-0	0.5	mg/kg		----	----	**449**	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		----	----	<3.0	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	----	**550**	----	----
Chrysene	218-01-9	0.5	mg/kg		----	----	**448**	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		----	----	**990**	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		----	----	<3.0	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	----	**536**	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg		----	----	**13.7**	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	----	**270**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	----	**78.1**	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	----	**284**	----	----
^ Sum of PAHs	----	0.5	mg/kg		----	----	**4500**	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	----	**802**	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	----	**802**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	----	**802**	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		----	----	<3.0	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg		----	----	<3.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW206_3.0	MW206_7.0	MW206_11.0	QA100	QA101
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-016	ES1537731-017	ES1537731-018	ES1537731-019	ES1537731-020
					Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued									
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		----	----	<3.0	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		----	----	<3.0	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg		----	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg		----	----	<3.0	----	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		----	----	<3.0	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		----	----	<3.0	----	----
N-Nitrosopyrrolidine	930-55-2	1	mg/kg		----	----	<3.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		----	----	<3.0	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		----	----	<3.0	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		----	----	<3.0	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		----	----	<3.0	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	mg/kg		----	----	<6.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg		----	----	<3.0	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		----	----	<3.0	----	----
Acetophenone	98-86-2	0.5	mg/kg		----	----	<3.0	----	----
Nitrobenzene	98-95-3	0.5	mg/kg		----	----	<3.0	----	----
Isophorone	78-59-1	0.5	mg/kg		----	----	<3.0	----	----
2.6-Dinitrotoluene	606-20-2	1	mg/kg		----	----	<3.0	----	----
2.4-Dinitrotoluene	121-14-2	1	mg/kg		----	----	<3.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg		----	----	<3.0	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		----	----	<3.0	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		----	----	<3.0	----	----
Azobenzene	103-33-3	1	mg/kg		----	----	<3	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		----	----	<3.0	----	----
Phenacetin	62-44-2	0.5	mg/kg		----	----	<3.0	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg		----	----	<3.0	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		----	----	<3.0	----	----
Pronamide	23950-58-5	0.5	mg/kg		----	----	<3.0	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		----	----	<3.0	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg		----	----	<3.0	----	----
EP075F: Haloethers									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW206_3.0	MW206_7.0	MW206_11.0	QA100	QA101
			Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit	ES1537731-016	ES1537731-017	ES1537731-018	ES1537731-019	ES1537731-020
				Result	Result	Result	Result	Result
EP075F: Haloethers - Continued								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	<3.0	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	<3.0	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	<3.0	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	<3.0	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<3.0	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<3.0	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<3.0	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	<3.0	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<3.0	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	<3.0	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<3.0	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	<3.0	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	<3.0	----	----
Hexachlorobenzene (HCB)	118-74-1	1	mg/kg	----	----	<3.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	<3.0	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	<3.0	----	----
2-Nitroaniline	88-74-4	1	mg/kg	----	----	<3.0	----	----
3-Nitroaniline	99-09-2	1	mg/kg	----	----	<3.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	**44.4**	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	<3.0	----	----
Carbazole	86-74-8	0.5	mg/kg	----	----	**50.5**	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	<3.0	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	----	<3.0	----	----
beta-BHC	319-85-7	0.5	mg/kg	----	----	<3.0	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	----	<3.0	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	----	<3.0	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	----	<3.0	----	----
Aldrin	309-00-2	0.5	mg/kg	----	----	<3.0	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	----	<3.0	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	----	<3.0	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	----	<3.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW206_3.0	MW206_7.0	MW206_11.0	QA100	QA101
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1537731-016	ES1537731-017	ES1537731-018	ES1537731-019	ES1537731-020
					Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued									
Dieldrin	60-57-1	0.5	mg/kg		----	----	<3.0	----	----
Endrin	72-20-8	0.5	mg/kg		----	----	<3.0	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg		----	----	<3.0	----	----
4.4`-DDD	72-54-8	0.5	mg/kg		----	----	<3.0	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg		----	----	<3.0	----	----
4.4`-DDT	50-29-3	1	mg/kg		----	----	<3.0	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	mg/kg		----	----	<2.4	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	mg/kg		----	----	<2.4	----	----
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		----	----	<3.0	----	----
Dimethoate	60-51-5	0.5	mg/kg		----	----	<3.0	----	----
Diazinon	333-41-5	0.5	mg/kg		----	----	<3.0	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		----	----	<3.0	----	----
Malathion	121-75-5	0.5	mg/kg		----	----	<3.0	----	----
Fenthion	55-38-9	0.5	mg/kg		----	----	<3.0	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg		----	----	<3.0	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		----	----	<3.0	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg		----	----	<3.0	----	----
Prothiofos	34643-46-4	0.5	mg/kg		----	----	<3.0	----	----
Ethion	563-12-2	0.5	mg/kg		----	----	<3.0	----	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		----	----	**95.6**	----	----
Phenol-d6	13127-88-3	0.5	%		----	----	**83.1**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	**85.9**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	**49.2**	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		----	----	**74.5**	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		----	----	**84.5**	----	----
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	**91.9**	----	----
Anthracene-d10	1719-06-8	0.5	%		----	----	**95.0**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	**91.1**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	REFACTORY COMPOSITE	----	----	----	----
			Client sampling date / time	[02-Dec-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1537731-021	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	**6.6**	----	----	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	<1.0	----	----	----	----
ED006: Exchangeable Cations on Alkaline Soils								
Exchangeable Calcium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Magnesium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Potassium	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Sodium	----	0.2	meq/100g	----	----	----	----	----
Cation Exchange Capacity	----	0.2	meq/100g	----	----	----	----	----
Exchangeable Calcium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Magnesium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Potassium Percent	----	0.2	%	----	----	----	----	----
Exchangeable Sodium Percent	----	0.2	%	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
Magnesium/Potassium Ratio	----	0.2	-	----	----	----	----	----
ED008: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	**0.8**	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	<0.1	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	<0.1	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	**0.1**	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	**1.0**	----	----	----	----
ED093S: Soluble Major Cations								
Sodium	7440-23-5	10	mg/kg	**40**	----	----	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	----	----	----
EK040S: Fluoride Soluble								
Fluoride	16984-48-8	1	mg/kg	**7**	----	----	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	REFACTORY COMPOSITE	----	----	----	----
			Client sampling date / time	[02-Dec-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1537731-021	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	----	----
^ Sum of PAHs	----	0.5	mg/kg	----	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	REFACTORY COMPOSITE	----	----	----	----
			Client sampling date / time	[02-Dec-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1537731-021	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued								
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	----	----	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	1	mg/kg	----	----	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	mg/kg	----	----	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	----	----	----
Isophorone	78-59-1	0.5	mg/kg	----	----	----	----	----
2.6-Dinitrotoluene	606-20-2	1	mg/kg	----	----	----	----	----
2.4-Dinitrotoluene	121-14-2	1	mg/kg	----	----	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	----	----	----
Azobenzene	103-33-3	1	mg/kg	----	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	----	----	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	----	----	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	REFACTORY COMPOSITE	----	----	----	----
				Client sampling date / time	[02-Dec-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1537731-021	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		----	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		----	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		----	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		----	----	----	----	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		----	----	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		----	----	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		----	----	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg		----	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		----	----	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg		----	----	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg		----	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		----	----	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg		----	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	1	mg/kg		----	----	----	----	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		----	----	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg		----	----	----	----	----
2-Nitroaniline	88-74-4	1	mg/kg		----	----	----	----	----
3-Nitroaniline	99-09-2	1	mg/kg		----	----	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg		----	----	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg		----	----	----	----	----
Carbazole	86-74-8	0.5	mg/kg		----	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		----	----	----	----	----
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		----	----	----	----	----
beta-BHC	319-85-7	0.5	mg/kg		----	----	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg		----	----	----	----	----
delta-BHC	319-86-8	0.5	mg/kg		----	----	----	----	----
Heptachlor	76-44-8	0.5	mg/kg		----	----	----	----	----
Aldrin	309-00-2	0.5	mg/kg		----	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg		----	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg		----	----	----	----	----
4.4`-DDE	72-55-9	0.5	mg/kg		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	REFACTORY COMPOSITE	----	----	----	----
				Client sampling date / time	[02-Dec-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1537731-021	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued									
Dieldrin	60-57-1	0.5	mg/kg		----	----	----	----	----
Endrin	72-20-8	0.5	mg/kg		----	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg		----	----	----	----	----
4.4`-DDD	72-54-8	0.5	mg/kg		----	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg		----	----	----	----	----
4.4`-DDT	50-29-3	1	mg/kg		----	----	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.5	mg/kg		----	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.5	mg/kg		----	----	----	----	----
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		----	----	----	----	----
Dimethoate	60-51-5	0.5	mg/kg		----	----	----	----	----
Diazinon	333-41-5	0.5	mg/kg		----	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		----	----	----	----	----
Malathion	121-75-5	0.5	mg/kg		----	----	----	----	----
Fenthion	55-38-9	0.5	mg/kg		----	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg		----	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		----	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg		----	----	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg		----	----	----	----	----
Ethion	563-12-2	0.5	mg/kg		----	----	----	----	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		----	----	----	----	----
Phenol-d6	13127-88-3	0.5	%		----	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		----	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		----	----	----	----	----
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		----	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	----	----	----

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1537731**	Page	: 1 of 13
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: PO BOX 560 NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: A5130456 CWS	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 04-Dec-2015
C-O-C number	: ----	Date Analysis Commenced	: 07-Dec-2015
Sampler	: MARK TIEDEMAN	Issue Date	: 15-Dec-2015
Site	: ----	No. of samples received	: 21
Quote number	: ----	No. of samples analysed	: 21

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

NATA WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Pabi Subba	Senior Organic Chemist	Sydney Organics, Smithfield, NSW
Shobhna Chandra	Metals Coordinator	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	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 (Soils) (QC Lot: 302525)									
ES1537731-001	MW201_3.0	EA002: pH Value	----	0.1	pH Unit	9.1	9.2	1.31	0% - 20%
ES1537731-014	MW205_9.0	EA002: pH Value	----	0.1	pH Unit	10.7	10.6	0.00	0% - 20%
EA002 : pH (Soils) (QC Lot: 302528)									
ES1537950-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.6	8.7	0.00	0% - 20%
ES1538052-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	8.1	8.1	0.00	0% - 20%
EA002 : pH (Soils) (QC Lot: 304861)									
ES1537731-021	REFACTORY COMPOSITE	EA002: pH Value	----	0.1	pH Unit	6.6	7.1	7.59	0% - 20%
EA055: Moisture Content (QC Lot: 301340)									
EB1536495-044	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	28.5	28.8	0.972	0% - 20%
ES1537731-009	MW203_9.0	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	13.6	13.1	3.66	0% - 50%
EA055: Moisture Content (QC Lot: 301341)									
ES1537731-018	MW206_11.0	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	20.9	21.7	3.74	0% - 20%
ES1537855-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	6.6	7.8	15.9	No Limit
ED006: Exchangeable Cations on Alkaline Soils (QC Lot: 307234)									
ES1537731-001	MW201_3.0	ED006: Magnesium/Potassium Ratio	----	0.1	-	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Calcium Percent	----	0.1	%	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Magnesium Percent	----	0.1	%	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Potassium Percent	----	0.1	%	2.1	2.0	0.00	0% - 50%
		ED006: Exchangeable Sodium Percent	----	0.1	%	97.9	98.0	0.00	0% - 20%
		ED006: Cation Exchange Capacity	----	0.1	meq/100g	30.8	32.4	4.88	0% - 20%
		ED006: Exchangeable Calcium	----	0.1	meq/100g	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Magnesium	----	0.1	meq/100g	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Potassium	----	0.1	meq/100g	0.6	0.6	0.00	No Limit
		ED006: Exchangeable Sodium	----	0.1	meq/100g	30.1	31.6	4.90	0% - 20%
ES1537731-010	MW204_2.5	ED006: Magnesium/Potassium Ratio	----	0.1	-	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Calcium Percent	----	0.1	%	10.7	10.4	2.97	0% - 20%
		ED006: Exchangeable Magnesium Percent	----	0.1	%	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Potassium Percent	----	0.1	%	0.7	1.3	64.0	No Limit
		ED006: Exchangeable Sodium Percent	----	0.1	%	88.6	88.2	0.376	0% - 20%
		ED006: Cation Exchange Capacity	----	0.1	meq/100g	18.6	19.2	3.01	0% - 20%
		ED006: Exchangeable Calcium	----	0.1	meq/100g	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Magnesium	----	0.1	meq/100g	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Potassium	----	0.1	meq/100g	<0.2	<0.2	0.00	No Limit
		ED006: Exchangeable Sodium	----	0.1	meq/100g	16.5	17.0	2.88	0% - 20%
ED008: Exchangeable Cations (QC Lot: 305983)									

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 (%)*
ED008: Exchangeable Cations (QC Lot: 305983) - continued									
ES1537696-001	Anonymous	ED008: Cation Exchange Capacity	----	0.1	meq/100g	11.7	11.9	1.67	0% - 20%
		ED008: Exchangeable Calcium	----	0.1	meq/100g	9.6	9.8	1.89	0% - 20%
		ED008: Exchangeable Magnesium	----	0.1	meq/100g	1.5	1.5	0.00	0% - 20%
		ED008: Exchangeable Potassium	----	0.1	meq/100g	0.5	0.5	0.00	0% - 20%
		ED008: Exchangeable Sodium	----	0.1	meq/100g	0.2	0.2	0.00	0% - 20%
ED008: Exchangeable Cations (QC Lot: 305984)									
ES1537731-001	MW201_3.0	ED008: Cation Exchange Capacity	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
		ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
		ED008: Exchangeable Magnesium	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
		ED008: Exchangeable Potassium	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
		ED008: Exchangeable Sodium	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
ES1537731-010	MW204_2.5	ED008: Cation Exchange Capacity	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
		ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
		ED008: Exchangeable Magnesium	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
		ED008: Exchangeable Potassium	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
		ED008: Exchangeable Sodium	----	0.1	meq/100g	<0.2	<0.2	0.00	0% - 20%
ED008: Exchangeable Cations (QC Lot: 305990)									
ES1537731-020	QA101	ED008: Cation Exchange Capacity	----	0.1	meq/100g	42.8	42.3	1.21	0% - 20%
		ED008: Exchangeable Calcium	----	0.1	meq/100g	22.8	22.5	1.59	0% - 20%
		ED008: Exchangeable Magnesium	----	0.1	meq/100g	0.2	0.2	0.00	0% - 20%
		ED008: Exchangeable Potassium	----	0.1	meq/100g	0.1	0.1	0.00	0% - 20%
		ED008: Exchangeable Sodium	----	0.1	meq/100g	17.5	17.3	1.10	0% - 20%
ED093S: Soluble Major Cations (QC Lot: 302527)									
ES1537731-014	MW205_9.0	ED093S: Sodium	7440-23-5	10	mg/kg	7250	8340	14.0	0% - 20%
ES1537731-001	MW201_3.0	ED093S: Sodium	7440-23-5	10	mg/kg	3300	3600	8.85	0% - 20%
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 304337)									
ES1536568-005	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.00	No Limit
ES1537731-006	MW202_9.8	EK026SF: Total Cyanide	57-12-5	1	mg/kg	49	48	0.00	0% - 20%
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 304338)									
ES1537731-017	MW206_7.0	EK026SF: Total Cyanide	57-12-5	1	mg/kg	110	109	0.00	0% - 20%
EK040S: Fluoride Soluble (QC Lot: 302526)									
ES1537731-001	MW201_3.0	EK040S: Fluoride	16984-48-8	1	mg/kg	2440	2330	4.40	0% - 20%
ES1537731-014	MW205_9.0	EK040S: Fluoride	16984-48-8	1	mg/kg	12700	11500	10.1	0% - 20%
EK040S: Fluoride Soluble (QC Lot: 304862)									
ES1537731-021	REFACTORY COMPOSITE	EK040S: Fluoride	16984-48-8	1	mg/kg	7	7	0.00	No Limit
EP075A: Phenolic Compounds (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2.4-Dichlorophenol	120-83-2	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 (%)*
EP075A: Phenolic Compounds (QC Lot: 300876) - continued									
ES1537731-009	MW203_9.0	EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.6	<0.6	0.00	No Limit
		EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.00	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	0.5	0.5	0.00	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.00	No Limit
EP075C: Phthalate Esters (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075D: Nitrosamines (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075D: Nitrosamines (QC Lot: 300876) - continued									
ES1537731-009	MW203_9.0	EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.00	No Limit
EP075F: Haloethers (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<2.5	<2.5	0.00	No Limit
		EP075: Hexachloroethane	67-72-1	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 (%)*
EP075G: Chlorinated Hydrocarbons (QC Lot: 300876) - continued									
ES1537731-009	MW203_9.0	EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075H: Anilines and Benzidines (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 300876)									
ES1537731-009	MW203_9.0	EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
ED006: Exchangeable Cations on Alkaline Soils (QCLot: 307234)								
ED006: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
ED006: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	106	80	110
ED006: Exchangeable Calcium Percent	----	0.1	%	<0.1	----	----	----	----
ED006: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	84.8	80	110
ED006: Exchangeable Magnesium Percent	----	0.1	%	<0.1	----	----	----	----
ED006: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	95.5	80	110
ED006: Exchangeable Potassium Percent	----	0.1	%	<0.1	----	----	----	----
ED006: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	84.6	80	110
ED006: Exchangeable Sodium Percent	----	0.1	%	<0.1	----	----	----	----
ED006: Magnesium/Potassium Ratio	----	0.1	-	<0.1	----	----	----	----
ED008: Exchangeable Cations (QCLot: 305983)								
ED008: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	90.0	82	128
ED008: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	91.6	82	120
ED008: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	99.4	70	140
ED008: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	105	78	136
ED008: Exchangeable Cations (QCLot: 305984)								
ED008: Cation Exchange Capacity	----	0.1	meq/100g	<0.2	----	----	----	----
ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.2	1 meq/100g	# 0.00	82	128
ED008: Exchangeable Magnesium	----	0.1	meq/100g	<0.2	1.67 meq/100g	# 0.00	82	120
ED008: Exchangeable Potassium	----	0.1	meq/100g	<0.2	0.51 meq/100g	# 0.00	70	140
ED008: Exchangeable Sodium	----	0.1	meq/100g	<0.2	0.87 meq/100g	# 0.00	78	136
ED008: Exchangeable Cations (QCLot: 305990)								
ED008: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
ED008: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	103	82	128
ED008: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	82.6	82	120
ED008: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	100	70	140
ED008: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	102	78	136
ED093S: Soluble Major Cations (QCLot: 302527)								
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	99.1	81	123
ED093S: Soluble Major Cations (QCLot: 304863)								
ED093S: Sodium	7440-23-5	10	mg/kg	<10	50 mg/kg	91.6	81	123
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 304337)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 304337) - continued								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	106	81	129
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 304338)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	104	81	129
EK040S: Fluoride Soluble (QCLot: 302526)								
EK040S: Fluoride	16984-48-8	1	mg/kg	<1	25 mg/kg	105	69	117
EK040S: Fluoride Soluble (QCLot: 304862)								
EK040S: Fluoride	16984-48-8	1	mg/kg	<1	25 mg/kg	110	69	117
EP075A: Phenolic Compounds (QCLot: 300876)								
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	88.8	49	107
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	82.8	49	109
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.1	47	105
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	90.7	14	108
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	77.2	48	110
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	100	57	115
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	107	55	117
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	92.3	47	117
EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.6	3 mg/kg	54.3	46	122
EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	104	57	113
EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	3 mg/kg	15.0	12	76
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	101	64	114
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 300876)								
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	93.1	54	112
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	108	58	116
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	66.2	50	116
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	82.6	48	106
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	91.4	62	112
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	91.9	56	114
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	93.8	57	111
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	59	115
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	106	56	116
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	3 mg/kg	107	57	119
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	114	56	120
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	92.3	61	117
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	101	53	119
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	91.6	58	114
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	59	115
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	117	55	117

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 300876) - continued								
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	97.9	58	114
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	103	62	118
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	94.9	63	113
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	88.3	57	117
EP075C: Phthalate Esters (QCLot: 300876)								
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	85.4	69	133
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	88.5	62	116
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	84.4	65	115
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	108	60	118
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	86.5	65	121
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	88.0	62	124
EP075D: Nitrosamines (QCLot: 300876)								
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	39.9	16	123
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	115	57	119
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	59	117
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	92.1	59	123
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	83.6	42	112
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	110	39	124
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.7	65	121
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	96.2	57	115
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	102	53	125
EP075E: Nitroaromatics and Ketones (QCLot: 300876)								
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	70.7	36	114
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	32.0	18	112
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.2	59	115
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	102	58	118
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	107	27	129
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	91.1	36	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	77.4	10	87
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	86.5	48	99
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.9	60	116
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	84.4	62	118
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	91.1	57	112
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.6	48	108
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	88.3	62	116
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.9	65	119
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	77.3	56	110

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 300876) - continued								
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	97.4	62	114
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	# 115	54	110
EP075F: Haloethers (QCLot: 300876)								
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	88.5	58	110
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	86.3	58	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	111	59	115
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	87.3	63	121
EP075G: Chlorinated Hydrocarbons (QCLot: 300876)								
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	94.5	63	108
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	96.7	57	115
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	95.7	58	112
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	93.4	58	116
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	92.6	59	111
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	96.4	59	117
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<0.5	1.5 mg/kg	65.6	24	108
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	98.1	54	116
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	101	39	110
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	82.1	57	109
EP075H: Anilines and Benzidines (QCLot: 300876)								
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	99.5	52	112
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	84.9	23	113
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	84.3	32	94
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	72.0	21	99
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	92.7	42	112
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	86.7	13	108
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	86.3	59	111
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	86.3	60	110
EP075I: Organochlorine Pesticides (QCLot: 300876)								
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.0	62	118
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.5 mg/kg	88.8	60	116
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<0.5	1.5 mg/kg	84.6	46	122
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.5 mg/kg	86.9	61	115
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.5 mg/kg	83.1	63	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.5 mg/kg	82.4	65	125
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.5 mg/kg	82.6	57	113
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.5 mg/kg	88.2	65	115
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.5 mg/kg	92.5	64	118
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.5 mg/kg	91.5	64	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075I: Organochlorine Pesticides (QCLot: 300876) - continued								
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.5 mg/kg	95.5	63	129
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.5 mg/kg	78.1	53	117
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.5 mg/kg	94.1	61	117
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.5 mg/kg	88.6	55	115
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.4	56	118
EP075: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	mg/kg	<0.5	----	----	----	----
EP075: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	0.5	mg/kg	<0.5	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 300876)								
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	1.5 mg/kg	91.2	59	103
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.5 mg/kg	84.5	63	113
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.5 mg/kg	75.2	60	130
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.5 mg/kg	70.8	68	134
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	61.6	46	112
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.5 mg/kg	82.4	63	119
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.5 mg/kg	89.9	62	118
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.5 mg/kg	87.6	60	116
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	85.4	65	127
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.5 mg/kg	87.0	65	115
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.5 mg/kg	86.3	59	119

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 304337)							
ES1536568-005	Anonymous	EK026SF: Total Cyanide	57-12-5	20 mg/kg	99.0	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 304338)							
ES1537731-017	MW206_7.0	EK026SF: Total Cyanide	57-12-5	20 mg/kg	# Not Determined	70	130
EK040S: Fluoride Soluble (QCLot: 302526)							
ES1537731-001	MW201_3.0	EK040S: Fluoride	16984-48-8	25 mg/kg	# Not Determined	70	130
EK040S: Fluoride Soluble (QCLot: 304862)							

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*
EK040S: Fluoride Soluble (QCLot: 304862) - continued							
ES1537731-021	REFACTORY COMPOSITE	EK040S: Fluoride	16984-48-8	25 mg/kg	114	70	130
EP075A: Phenolic Compounds (QCLot: 300876)							
ES1537731-009	MW203_9.0	EP075: 2-Chlorophenol	95-57-8	10 mg/kg	90.4	60	130
		EP075: 2-Nitrophenol	88-75-5	10 mg/kg	81.9	50	130
		EP075: 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	95.9	50	130
		EP075: Pentachlorophenol	87-86-5	20 mg/kg	28.4	10	130
		EP075: Phenol	108-95-2	10 mg/kg	106	60	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 300876)							
ES1537731-009	MW203_9.0	EP075: Acenaphthene	83-32-9	10 mg/kg	99.2	50	130
		EP075: Pyrene	129-00-0	10 mg/kg	54.2	50	130
EP075D: Nitrosamines (QCLot: 300876)							
ES1537731-009	MW203_9.0	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	96.6	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 300876)							
ES1537731-009	MW203_9.0	EP075: 2.4-Dinitrotoluene	121-14-2	10 mg/kg	87.2	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 300876)							
ES1537731-009	MW203_9.0	EP075: 1.2.4-Trichlorobenzene	120-82-1	10 mg/kg	107	50	130
		EP075: 1.4-Dichlorobenzene	106-46-7	10 mg/kg	102	60	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1537731**	Page	: 1 of 7
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Telephone	: +61-2-8784 8555
Project	: A5130456 CWS	Date Samples Received	: 04-Dec-2015
Site	: ----	Issue Date	: 15-Dec-2015
Sampler	: MARK TIEDEMAN	No. of samples received	: 21
Order number	: ----	No. of samples analysed	: 21

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.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **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 : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
ED008: Exchangeable Cations	QC-305984-002	----	**Exchangeable Calcium**	----	0.00 %	82-128%	**Recovery less than lower control limit**
ED008: Exchangeable Cations	QC-305984-002	----	**Exchangeable Magnesium**	----	0.00 %	82-120%	**Recovery less than lower control limit**
ED008: Exchangeable Cations	QC-305984-002	----	**Exchangeable Potassium**	----	0.00 %	70-140%	**Recovery less than lower control limit**
ED008: Exchangeable Cations	QC-305984-002	----	**Exchangeable Sodium**	----	0.00 %	78-136%	**Recovery less than lower control limit**
EP075E: Nitroaromatics and Ketones	QC-300876-002	----	**Pronamide**	23950-58-5	115 %	54-110%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EK026SF: Total CN by Segmented Flow Analyser	ES1537731--017	MW206_7.0	**Total Cyanide**	57-12-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK040S: Fluoride Soluble	ES1537731--001	MW201_3.0	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA002 : pH (Soils)						
Snap Lock Bag REFACTORY COMPOSITE	10-Dec-2015	09-Dec-2015	**1**	----	----	----
EK040S: Fluoride Soluble						
Snap Lock Bag REFACTORY COMPOSITE	10-Dec-2015	09-Dec-2015	**1**	----	----	----

Analysis Holding Time Compliance

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 / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)							
Snap Lock Bag (EA002)							
REFACTORY COMPOSITE	**02-Dec-2015**	**10-Dec-2015**	09-Dec-2015	×	**10-Dec-2015**	10-Dec-2015	✓
Soil Glass Jar - Unpreserved (EA002)							
MW201_3.0, MW201_6.0, MW201_9.0, MW202_2.0, MW202_6.5, MW202_9.8, MW203_2.5, MW203_7.0, MW203_9.0, MW204_2.5, MW204_6.0 - MW204_, MW204_9.0 - MW204_11.0, MW205_5.5, MW205_9.0, MW205_11.3, MW206_3.0, MW206_7.0, MW206_11.0, QA100, QA101	**02-Dec-2015**	**09-Dec-2015**	09-Dec-2015	✓	**09-Dec-2015**	09-Dec-2015	✓
EA055: Moisture Content							
Snap Lock Bag (EA055-103)							
REFACTORY COMPOSITE	**02-Dec-2015**	**----**	----	----	**07-Dec-2015**	16-Dec-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
MW201_3.0, MW201_6.0, MW201_9.0, MW202_2.0, MW202_6.5, MW202_9.8, MW203_2.5, MW203_7.0, MW203_9.0, MW204_2.5, MW204_6.0 - MW204_, MW204_9.0 - MW204_11.0, MW205_5.5, MW205_9.0, MW205_11.3, MW206_3.0, MW206_7.0, MW206_11.0, QA100, QA101	**02-Dec-2015**	**----**	----	----	**07-Dec-2015**	16-Dec-2015	✓
ED006: Exchangeable Cations on Alkaline Soils							
Soil Glass Jar - Unpreserved (ED006)							
MW201_3.0, MW201_6.0, MW201_9.0, MW202_2.0, MW202_6.5, MW202_9.8, MW203_2.5, MW203_7.0, MW203_9.0, MW204_2.5, MW204_6.0 - MW204_, MW204_9.0 - MW204_11.0, MW205_5.5, MW205_9.0, MW205_11.3, MW206_3.0, MW206_7.0, MW206_11.0, QA100	**02-Dec-2015**	**11-Dec-2015**	30-Dec-2015	✓	**11-Dec-2015**	30-Dec-2015	✓

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
ED008: Exchangeable Cations							
Snap Lock Bag (ED008)							
REFACTORY COMPOSITE	**02-Dec-2015**	**11-Dec-2015**	30-Dec-2015	✓	**11-Dec-2015**	30-Dec-2015	✓
Soil Glass Jar - Unpreserved (ED008)							
QA101	**02-Dec-2015**	**10-Dec-2015**	30-Dec-2015	✓	**10-Dec-2015**	30-Dec-2015	✓
ED093S: Soluble Major Cations							
Snap Lock Bag (ED093S)							
REFACTORY COMPOSITE	**02-Dec-2015**	**10-Dec-2015**	30-May-2016	✓	**10-Dec-2015**	30-May-2016	✓
Soil Glass Jar - Unpreserved (ED093S)							
MW201_3.0, MW201_6.0, MW201_9.0, MW202_2.0, MW202_6.5, MW202_9.8, MW203_2.5, MW203_7.0, MW203_9.0, MW204_2.5, MW204_6.0 - MW204_, MW204_9.0 - MW204_11.0, MW205_5.5, MW205_9.0, MW205_11.3, MW206_3.0, MW206_7.0, MW206_11.0, QA100, QA101	**02-Dec-2015**	**09-Dec-2015**	30-May-2016	✓	**09-Dec-2015**	30-May-2016	✓
EK026SF: Total CN by Segmented Flow Analyser							
Snap Lock Bag (EK026SF)							
REFACTORY COMPOSITE	**02-Dec-2015**	**12-Dec-2015**	16-Dec-2015	✓	**12-Dec-2015**	26-Dec-2015	✓
Soil Glass Jar - Unpreserved (EK026SF)							
MW201_3.0, MW201_6.0, MW201_9.0, MW202_2.0, MW202_6.5, MW202_9.8, MW203_2.5, MW203_7.0, MW203_9.0, MW204_2.5, MW204_6.0 - MW204_, MW204_9.0 - MW204_11.0, MW205_5.5, MW205_9.0, MW205_11.3, MW206_3.0, MW206_7.0, MW206_11.0, QA100, QA101	**02-Dec-2015**	**12-Dec-2015**	16-Dec-2015	✓	**12-Dec-2015**	26-Dec-2015	✓

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
EK040S: Fluoride Soluble								
Snap Lock Bag (EK040S)								
REFACTORY COMPOSITE		**02-Dec-2015**	**10-Dec-2015**	09-Dec-2015	×	**10-Dec-2015**	07-Jan-2016	✓
Soil Glass Jar - Unpreserved (EK040S)								
MW201_3.0,	MW201_6.0,	**02-Dec-2015**	**09-Dec-2015**	09-Dec-2015	✓	**10-Dec-2015**	06-Jan-2016	✓
MW201_9.0,	MW202_2.0,							
MW202_6.5,	MW202_9.8,							
MW203_2.5,	MW203_7.0,							
MW203_9.0,	MW204_2.5,							
MW204_6.0 - MW204_,	MW204_9.0 - MW204_11.0,							
MW205_5.5,	MW205_9.0,							
MW205_11.3,	MW206_3.0,							
MW206_7.0,	MW206_11.0,							
QA100,	QA101							
EP075A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075)								
MW201_3.0,	MW202_6.5,	**02-Dec-2015**	**07-Dec-2015**	16-Dec-2015	✓	**07-Dec-2015**	16-Jan-2016	✓
MW203_9.0,	MW204_2.5,							
MW205_11.3,	MW206_11.0							

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)							
Semivolatile Organic Compounds	EP075	20	68	**29.41**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Semivolatile Organic Compounds	EP075	13	68	**19.12**	**4.06**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Semivolatile Organic Compounds	EP075	9	68	**13.24**	**3.44**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Semivolatile Organic Compounds	EP075	5	68	**7.35**	**1.56**	✓	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 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) (Method 103)
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 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 Rayment & Lyons (2011) Method 15C1. 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 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)
Cations - soluble by ICP-AES	ED093S	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010 (ICPAES) Water extracts of the soil are analyzed for major cations by ICPAES. 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 Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN-O. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Fluoride - Soluble	EK040S	SOIL	In house: Referenced to APHA 4500 F--C Soluble Fluoride is determined after a 1:5 soil/water extract using an ion selective electrode.
Semivolatile Organic Compounds	EP075	SOIL	(USEPA SW 846 - 8270B) 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 502)

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

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com

☐BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 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 9600 E: samples.melbourne@alsglobal.com

☐MUDGEE 1/23 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

☐NEWCASTLE 5/5535 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com

☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Ramboll Environ	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☑ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: CWS	PROJECT NO.: AS130456	ALS QUOTE NO.:	Free Ice / frozen Ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:	PURCHASE ORDER NO.:	COUNTRY OF ORIGIN:	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Mark Tiedeman.	CONTACT PH:	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Other comment:
SAMPLER: Mark Tiedeman	SAMPLER MOBILE: 0410822410	OF: 1 (2) 3 4 5 6 7	
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY:	RECEIVED BY: Frank ALS
Email Reports to (will default to PM if no other addresses are listed): kgrunfield@ramboll.com/		DATE/TIME: 2/12/15 14:00	DATE/TIME: 4/12/15 1100
Email Invoice to (will default to PM if no other addresses are listed):		RELINQUISHED BY:	RECEIVED BY:
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME:	DATE/TIME:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			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 (refer to codes below)	TOTAL BOTTLES	Soluable Fluoride	Cyanide	Sodium	pH.	Cation Exchange	sVOC.	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	MW201_3.0	2/12/15	S		1	X	X	X	X	X	X	Subcon / Forward Lab / Split WO
2	MW201_6.0	"			1	X	X	X	X	X		Lab / Analysis: MGT/GA201
3	MW201_9.0				1	X	X	X	X	X		Organised By / Date:
4	MW202_2.0				1	X	X	X	X	X		Relinquished By / Date:
5	MW202_6.5				1	X	X	X	X	X	X	Connote / Courier:
6	MW202_9.8				1	X	X	X	X	X		WO No:
7	MW203_2.5				1	X	X	X	X	X		Attach By PO / Internal Sheet:
8	MW203_7.0				1	X	X	X	X	X		
9	MW203_9.0				1	X	X	X	X	X	X	
10	MW204_2.5				1	X	X	X	X	X	X	
11	MW204_6.0				1	X	X	X	X	X		
12	MW204_9.0				1	X	X	X	X	X		
				TOTAL	12	12	12	12	12	12		

Environmental Division
Sydney
Work Order Reference
ES1537731

Telephone : +61-2-8784 8555

Refer 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
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;
Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

☐NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT:	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE:		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: PROJECT NO.:	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen Ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.:	COUNTRY OF ORIGIN:	COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: CONTACT PH:		OF: 1 (2) 3 4 5 6 7	Other comment:
SAMPLER: SAMPLER MOBILE:	RELINQUISHED BY:	RECEIVED BY: Frank ALS	RELINQUISHED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):		DATE/TIME: 4/12/15 1100	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed):	DATE/TIME:		RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed):			DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			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 *(refer to codes below)*	TOTAL BOTTLES	Solvable Fluoride	Cyanide	Sodium	pH	Cation Exchange	sVOC			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	MW205_5.5	2/12/15	S		1	X	X	X	X	X				
14	MW205_9.0				1	X	X	X	X	X				
15	MW205_11.3				1	X	X	X	X	X	X			
16	MW206_3.0				1	X	X	X	X	X				
17	MW206_7.0				1	X	X	X	X	X				
18	MW206_11.0				1	X	X	X	X	X	X			
19	QA102				1	X	X	X	X	X				
20	QA101				1	X	X	X	X	X				
21	QA201				1	X	X	X	X	X				Forward to MGT.
22	Refurbishment Composite				1	X	X	X	X	X				
				TOTAL	10	10	10	10	10	10				

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; 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; Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

Fadi Soro

From: Kirsty Greenfield <kgreenfield@ramboll.com>
Sent: Friday, 4 December 2015 8:49 AM
To: Loren Schiavon
Cc: Samples Newcastle; Samples Sydney; Mark Tiedeman
Subject: FW: Message from KMBT_C220
Attachments: SKMBT_C22015120408490.pdf

Hi Loren,

Please find attached the chain of custody for the samples Mark dropped off for your job ES1537731. FYI, I would expected that these samples will be high in the analytes requested, particularly soluble fluoride, cyanide and sodium.

As Mark is on leave, please let me know if you have any questions regarding this job.

Yours sincerely
Kirsty Greenfield

Senior Environmental Consultant

D +61 2 4962 5444
M +61 4 07149176
kgreenfield@ramboll.com

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RAMBOLL ENVIRON

Ramboll Environ Australia Pty Ltd
ACN 095 437 442
ABN 49 095 437 442

From: c353@environcorp.com [mailto:c353@environcorp.com]
Sent: Friday, 4 December 2015 9:50 AM
To: Kirsty Greenfield
Subject: Message from KMBT_C220

This message contains information that may be confidential, privileged or otherwise protected by law from disclosure. It is intended for the exclusive use of the Addressee(s). Unless you are the addressee or authorized agent of the addressee, you may not review, copy, distribute or disclose to anyone the message or any information contained within. If you have received this message in error, please contact the sender by electronic reply to email@ramboll.com and immediately delete all copies of the message.

ALS Group: Click here to report this email as spam.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1600309**	Page	: 1 of 17
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: PO BOX 560 NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: A5130456 CWS	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 06-Jan-2016 09:00
C-O-C number	: ----	Date Analysis Commenced	: 08-Jan-2016
Sampler	: ----	Issue Date	: 15-Jan-2016 14:23
Site	: ----		
		No. of samples received	: 21
Quote number	: ----	No. of samples analysed	: 21

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Hoa Nguyen	Senior Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Pabi Subba	Senior Organic Chemist	Sydney Organics, Smithfield, NSW
Shaun Spooner	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Shobhna Chandra	Metals Coordinator	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.

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.

- EK026SF:Poor spike recovery for (Total Cyanide) due to matrix interferences(confirmed by re-analysis).
- **EA200: As only one sample container was submitted for multiple tests, sub sampling was conducted prior to Asbestos analysis. As this has the potential to understate detection, results should be scrutinised accordingly and NATA accreditation does not apply to analysis on these samples.**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- 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.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW201_3.0	MW201_6.0	MW201_9.0	MW202_2.0	MW202_6.5
			Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit	ES1600309-001	ES1600309-002	ES1600309-003	ES1600309-004	ES1600309-005
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	Yes	Yes + Trace	No	Yes
Asbestos Type	1332-21-4	-	--	-	Am	Am	-	Am
Sample weight (dry)	----	0.01	g	60.3	58.2	47.7	74.0	60.5
APPROVED IDENTIFIER:	----	-	--	S.SPOONER	S.SPOONER	S.SPOONER	S.SPOONER	G.MORGAN
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	7.9	8.7	9.4	9.4	9.0
After HCl pH	----	0.1	pH Unit	4.4	4.3	4.0	4.6	4.4
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.6	5.6	5.5	5.8	5.4
EN33Z: ZHE TCLP Leach								
Extraction Fluid Number	----	0.1	pH Unit	1.0	1.0	1.0	1.0	1.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW202_9.8	MW203_2.5	MW203_7.0	MW203_9.0	MW204_2.5
			Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit	ES1600309-006	ES1600309-007	ES1600309-008	ES1600309-009	ES1600309-010
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	Yes	No	Yes	Yes	No
Asbestos Type	1332-21-4	-	--	Am	-	Ch + Am	Am	-
Sample weight (dry)	----	0.01	g	37.4	16.2	70.8	72.4	42.9
APPROVED IDENTIFIER:	----	-	--	G.MORGAN	S.SPOONER	S.SPOONER	S.SPOONER	S.SPOONER
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	10.3	8.8	9.0	10.4	6.5
After HCl pH	----	0.1	pH Unit	2.7	4.2	5.1	6.1	2.6
Extraction Fluid Number	----	1	-	1	1	2	2	1
Final pH	----	0.1	pH Unit	5.2	5.7	5.1	5.1	5.1
EN33Z: ZHE TCLP Leach								
Extraction Fluid Number	----	0.1	pH Unit	1.0	1.0	1.0	1.0	1.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	MW204_6.0	MW204_9.0	MM205_5.5	MM205_9.0	MM205_11.3
			Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit	ES1600309-011	ES1600309-012	ES1600309-013	ES1600309-014	ES1600309-015
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	36.4	51.8	60.9	60.2	55.8
APPROVED IDENTIFIER:	----	-	--	S.SPOONER	S.SPOONER	S.SPOONER	S.SPOONER	S.SPOONER
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	9.7	10.1	7.0	9.7	8.6
After HCl pH	----	0.1	pH Unit	5.8	6.6	2.0	2.7	3.6
Extraction Fluid Number	----	1	-	2	2	1	1	1
Final pH	----	0.1	pH Unit	5.0	5.6	5.2	6.5	5.4
EN33Z: ZHE TCLP Leach								
Extraction Fluid Number	----	0.1	pH Unit	1.0	1.0	1.0	1.0	1.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	MW206_3.0	MW206_7.0	MW206_11.0	QA100	QA101
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1600309-016	ES1600309-017	ES1600309-018	ES1600309-019	ES1600309-020
					Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		No	No	No	No	No
Asbestos Type	1332-21-4	-	--		-	-	-	-	-
Sample weight (dry)	----	0.01	g		57.6	49.0	48.0	39.2	43.9
APPROVED IDENTIFIER:	----	-	--		S.SPOONER	S.SPOONER	S.SPOONER	S.SPOONER	S.SPOONER
EN33: TCLP Leach									
Initial pH	----	0.1	pH Unit		10.2	9.8	9.9	8.9	6.6
After HCl pH	----	0.1	pH Unit		5.8	5.1	2.6	4.5	2.1
Extraction Fluid Number	----	1	-		2	2	1	1	1
Final pH	----	0.1	pH Unit		5.2	5.1	5.4	5.7	5.1
EN33Z: ZHE TCLP Leach									
Extraction Fluid Number	----	0.1	pH Unit		1.0	1.0	1.0	1.0	1.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	REFACTORY COMPOSITE	----	----	----	----
				Client sampling date / time	[02-Dec-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1600309-021	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		**No**	----	----	----	----
Asbestos Type	1332-21-4	-	--		**-**	----	----	----	----
Sample weight (dry)	----	0.01	g		**69.9**	----	----	----	----
APPROVED IDENTIFIER:	----	-	--		**S.SPOONER**	----	----	----	----
EN33: TCLP Leach									
Initial pH	----	0.1	pH Unit		**6.1**	----	----	----	----
After HCl pH	----	0.1	pH Unit		**1.3**	----	----	----	----
Extraction Fluid Number	----	1	-		**1**	----	----	----	----
Final pH	----	0.1	pH Unit		**5.0**	----	----	----	----
EN33Z: ZHE TCLP Leach									
Extraction Fluid Number	----	0.1	pH Unit		**1.0**	----	----	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Client sample ID	MW201_3.0	MW201_6.0	MW201_9.0	MW202_2.0	MW202_6.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1600309-001	ES1600309-002	ES1600309-003	ES1600309-004	ES1600309-005
					Result	Result	Result	Result	Result
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		311	307	228	68.9	159
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		5.8	2.0	<1.0	318	1.6
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		15.0	<1.0	<1.0	10.3	2.7
Fluorene	86-73-7	1	µg/L		4.7	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1	µg/L		11.3	<1.0	5.6	<1.0	1.6
Anthracene	120-12-7	1	µg/L		2.3	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1	µg/L		5.4	<1.0	5.1	<1.0	1.8
Pyrene	129-00-0	1	µg/L		4.2	<1.0	3.8	<1.0	1.5
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		48.7	2.0	14.5	328	9.2
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		31.7	24.9	27.6	23.9	26.0
2-Chlorophenol-D4	93951-73-6	1	%		62.7	49.1	53.9	52.4	46.2
2.4.6-Tribromophenol	118-79-6	1	%		75.1	59.4	67.8	76.2	59.0
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		80.6	67.2	76.9	66.7	65.6
Anthracene-d10	1719-06-8	1	%		82.2	74.8	74.1	88.1	69.4
4-Terphenyl-d14	1718-51-0	1	%		74.9	64.1	64.7	76.9	59.1

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Client sample ID	MW202_9.8	MW203_2.5	MW203_7.0	MW203_9.0	MW204_2.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1600309-006	ES1600309-007	ES1600309-008	ES1600309-009	ES1600309-010
					Result	Result	Result	Result	Result
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		78.2	267	909	608	217
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		14.6	32.8	<1.0	<1.0	1.2
Acenaphthylene	208-96-8	1	µg/L		1.2	1.1	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		216	157	<1.0	<1.0	<1.0
Fluorene	86-73-7	1	µg/L		90.6	27.7	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1	µg/L		137	28.8	<1.0	<1.0	3.5
Anthracene	120-12-7	1	µg/L		17.1	12.8	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1	µg/L		21.9	14.4	<1.0	<1.0	7.9
Pyrene	129-00-0	1	µg/L		17.6	9.9	<1.0	<1.0	3.7
Benz(a)anthracene	56-55-3	1	µg/L		2.7	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1	µg/L		1.8	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		1.1	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		0.7	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		522	284	<0.5	<0.5	16.3
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		1.1	<0.5	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		26.8	32.7	30.6	28.4	34.0
2-Chlorophenol-D4	93951-73-6	1	%		53.3	64.6	59.1	56.4	65.2
2.4.6-Tribromophenol	118-79-6	1	%		64.1	71.8	68.4	65.6	84.9
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		73.9	80.0	81.0	76.5	86.5
Anthracene-d10	1719-06-8	1	%		67.8	77.6	84.1	82.8	94.4
4-Terphenyl-d14	1718-51-0	1	%		77.5	76.1	71.7	65.1	81.6

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Client sample ID	MW204_6.0	MW204_9.0	MM205_5.5	MM205_9.0	MM205_11.3
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1600309-011	ES1600309-012	ES1600309-013	ES1600309-014	ES1600309-015
					Result	Result	Result	Result	Result
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		795	762	271	144	292
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		11.4	3.3	<1.0	21.2	5.5
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		10.9	10.6	3.4	7.6	11.0
Fluorene	86-73-7	1	µg/L		2.5	1.1	1.4	3.6	4.6
Phenanthrene	85-01-8	1	µg/L		12.4	10.6	6.6	19.3	12.8
Anthracene	120-12-7	1	µg/L		1.8	<1.0	1.3	3.1	2.9
Fluoranthene	206-44-0	1	µg/L		3.6	2.7	4.6	6.8	9.3
Pyrene	129-00-0	1	µg/L		3.0	2.1	4.0	5.6	8.0
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	1.4
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	1.1
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		45.6	30.4	21.3	67.2	56.6
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		34.4	22.0	29.1	28.2	26.1
2-Chlorophenol-D4	93951-73-6	1	%		64.7	45.1	56.7	56.3	50.3
2.4.6-Tribromophenol	118-79-6	1	%		81.4	57.0	69.0	58.5	65.4
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		81.3	64.7	80.0	69.9	68.6
Anthracene-d10	1719-06-8	1	%		85.1	58.8	77.6	66.1	68.6
4-Terphenyl-d14	1718-51-0	1	%		77.6	56.5	69.5	66.5	70.0

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Client sample ID	MW206_3.0	MW206_7.0	MW206_11.0	QA100	QA101
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1600309-016	ES1600309-017	ES1600309-018	ES1600309-019	ES1600309-020
					Result	Result	Result	Result	Result
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**496**	**747**	**154**	**274**	**267**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		**1.2**	**2.5**	**3.5**	**19.1**	<1.0
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		<1.0	**2.7**	**10.3**	**66.0**	<1.0
Fluorene	86-73-7	1	µg/L		<1.0	<1.0	**10.2**	**11.6**	<1.0
Phenanthrene	85-01-8	1	µg/L		**2.3**	**3.0**	**13.1**	**10.7**	<1.0
Anthracene	120-12-7	1	µg/L		<1.0	<1.0	**11.8**	**4.6**	<1.0
Fluoranthene	206-44-0	1	µg/L		**1.8**	**1.2**	**6.3**	**5.7**	**1.7**
Pyrene	129-00-0	1	µg/L		**1.2**	**1.0**	**5.3**	**3.6**	<1.0
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		**6.5**	**10.4**	**60.5**	**121**	**1.7**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**33.4**	**27.8**	**27.8**	**28.6**	**26.5**
2-Chlorophenol-D4	93951-73-6	1	%		**62.7**	**53.4**	**55.0**	**56.5**	**52.6**
2.4.6-Tribromophenol	118-79-6	1	%		**82.0**	**67.7**	**63.4**	**65.3**	**64.4**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		**82.7**	**75.3**	**69.9**	**69.7**	**74.1**
Anthracene-d10	1719-06-8	1	%		**92.4**	**79.0**	**70.6**	**71.0**	**80.0**
4-Terphenyl-d14	1718-51-0	1	%		**78.1**	**62.9**	**66.3**	**66.8**	**66.7**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)				Client sample ID	REFACTORY COMPOSITE	----	----	----	----
				Client sampling date / time	[02-Dec-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1600309-021	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**30.5**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1	%		**60.8**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1	%		**67.1**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		**76.0**	----	----	----	----
Anthracene-d10	1719-06-8	1	%		**84.6**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1	%		**69.4**	----	----	----	----

Analytical Results

Sub-Matrix: **ZHE LEACHATE** (Matrix: **WATER**)				Client sample ID	MW201_3.0	MW201_6.0	MW201_9.0	MW202_2.0	MW202_6.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1600309-001	ES1600309-002	ES1600309-003	ES1600309-004	ES1600309-005
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.624**	**4.12**	**4.67**	**0.388**	**3.31**

Analytical Results

Sub-Matrix: **ZHE LEACHATE** (Matrix: **WATER**)				Client sample ID	MW202_9.8	MW203_2.5	MW203_7.0	MW203_9.0	MW204_2.5
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1600309-006	ES1600309-007	ES1600309-008	ES1600309-009	ES1600309-010
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**2.71**	**1.48**	**1.97**	**8.54**	<0.004

Analytical Results

Sub-Matrix: **ZHE LEACHATE** (Matrix: **WATER**)				Client sample ID	MW204_6.0	MW204_9.0	MM205_5.5	MM205_9.0	MM205_11.3
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1600309-011	ES1600309-012	ES1600309-013	ES1600309-014	ES1600309-015
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**6.07**	**5.16**	**1.19**	**3.49**	**0.198**

Analytical Results

Sub-Matrix: ZHE LEACHATE (Matrix: WATER)				Client sample ID	MW206_3.0	MW206_7.0	MW206_11.0	QA100	QA101
				Client sampling date / time	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]	[02-Dec-2015]
Compound	CAS Number	LOR	Unit		ES1600309-016	ES1600309-017	ES1600309-018	ES1600309-019	ES1600309-020
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**7.08**	**8.01**	**0.870**	**1.93**	<0.004

Analytical Results

Sub-Matrix: ZHE LEACHATE (Matrix: WATER)	Client sample ID	REFACTORY COMPOSITE	----	----	----	----
	Client sampling date / time	[02-Dec-2015]	----	----	----	----
Compound / CAS Number / LOR / Unit		ES1600309-021	--------	--------	--------	--------
		Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser						
Total Cyanide	57-12-5 / 0.004 / mg/L	**0.062**	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	MW201_3.0 - [02-Dec-2015]	Mid red - brown clay soil with slag debris.
EA200: Description	MW201_6.0 - [02-Dec-2015]	Dark grey soil with several loose bundles of friable asbestos fibres approx 2 x 1 x 0.5 mm.
EA200: Description	MW201_9.0 - [02-Dec-2015]	Mid grey sandy soil with slag debris and several loose bundles of friable asbestos fibres approx 2 x 1 x 0.5 mm.
EA200: Description	MW202_2.0 - [02-Dec-2015]	Dark grey soil with soil debris.
EA200: Description	MW202_6.5 - [02-Dec-2015]	Mid grey - brown clay soil with several bundles of friable asbestos fibres approx 2 x 1 x 1 mm.
EA200: Description	MW202_9.8 - [02-Dec-2015]	Mid grey - brown clay soil with several bundles of friable asbestos fibres approx 2 x 1 x 1 mm.
EA200: Description	MW203_2.5 - [02-Dec-2015]	Mid brown clay soil with grey rocks.
EA200: Description	MW203_7.0 - [02-Dec-2015]	Dark grey soil with several loose bundles of friable asbestos fibres approx 3 x 1 x 0.5 mm.
EA200: Description	MW203_9.0 - [02-Dec-2015]	Dark grey soil with several loose bundles of friable asbestos fibres approx 3 x 1 x 0.5 mm.
EA200: Description	MW204_2.5 - [02-Dec-2015]	Dark grey soil with slag debris.
EA200: Description	MW204_6.0 - [02-Dec-2015]	Dark grey soil with slag debris.
EA200: Description	MW204_9.0 - [02-Dec-2015]	Dark grey soil with slag debris.
EA200: Description	MM205_5.5 - [02-Dec-2015]	Dark grey soil with slag debris.
EA200: Description	MM205_9.0 - [02-Dec-2015]	Dark grey soil with slag debris.
EA200: Description	MM205_11.3 - [02-Dec-2015]	Dark grey soil with slag debris.
EA200: Description	MW206_3.0 - [02-Dec-2015]	Dark grey soil with slag debris.
EA200: Description	MW206_7.0 - [02-Dec-2015]	Mid grey clay soil with slag debris.
EA200: Description	MW206_11.0 - [02-Dec-2015]	Dark grey soil with slag debris.
EA200: Description	QA100 - [02-Dec-2015]	Mid brown clay soil with grey rocks.
EA200: Description	QA101 - [02-Dec-2015]	Mid grey clay soil with grey rocks.
EA200: Description	REFACTORY COMPOSITE - [02-Dec-2015]	Mid grey soil with grey rocks.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1600309**	Page	: 1 of 6
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: PO BOX 560 NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: A5130456 CWS	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: ----	Date Samples Received	: 06-Jan-2016
C-O-C number	: ----	Date Analysis Commenced	: 08-Jan-2016
Sampler	: ----	Issue Date	: 15-Jan-2016
Site	: ----	No. of samples received	: 21
Quote number	: ----	No. of samples analysed	: 21

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

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

NATA WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Hoa Nguyen	Senior Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Pabi Subba	Senior Organic Chemist	Sydney Organics, Smithfield, NSW
Shaun Spooner	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Shobhna Chandra	Metals Coordinator	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: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 328987)									
ES1600309-001	MW201_3.0	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	0.624	0.623	0.160	0% - 20%
ES1600309-011	MW204_6.0	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	6.07	6.60	8.33	0% - 20%
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 328988)									
ES1600508-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.00	No Limit
EK040P: Fluoride by PC Titrator (QC Lot: 329160)									
ES1600309-001	MW201_3.0	EK040P: Fluoride	16984-48-8	0.1	mg/L	311	319	2.54	0% - 20%
ES1600309-010	MW204_2.5	EK040P: Fluoride	16984-48-8	0.1	mg/L	217	221	1.83	0% - 20%
EK040P: Fluoride by PC Titrator (QC Lot: 329161)									
ES1600309-021	REFACTORY COMPOSITE	EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EN33: TCLP Leach (QCLot: 327300)								
EN33a: After HCl pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33a: Final pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33a: Initial pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33: TCLP Leach (QCLot: 327301)								
EN33a: After HCl pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33a: Final pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33a: Initial pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33: TCLP Leach (QCLot: 327302)								
EN33a: After HCl pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33a: Final pH	----	0.1	pH Unit	1.0	----	----	----	----
EN33a: Initial pH	----	0.1	pH Unit	1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 328987)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	100	73	133
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 328988)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	108	73	133
EK040P: Fluoride by PC Titrator (QCLot: 329160)								
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	5 mg/L	102	82	116
EK040P: Fluoride by PC Titrator (QCLot: 329161)								
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	5 mg/L	99.0	82	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 328883)								
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	94.0	62	113
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	97.0	64	114
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	100	64	116
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	106	64	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	112	63	117
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	106	62	119
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	109	59	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	110	63	115
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	106	63	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 328883) - continued								
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	109	61	117
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	113	64	118
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	98.7	64	115
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	108	60	118
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	92.7	50	94
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	103	63	116
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	116	63	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 328884)								
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	79.0	62	113
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	83.6	64	114
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	84.0	64	116
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	81.6	64	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	88.0	63	117
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	83.0	62	119
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	86.8	59	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	90.8	63	115
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	80.6	63	116
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	90.6	61	117
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	92.4	64	118
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	85.2	64	115
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	86.5	60	118
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	74.5	50	94
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	84.0	63	116
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	92.4	63	118

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: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 328987)							
ES1600309-001	MW201_3.0	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	87.7	70	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 328988)							
ES1600508-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	# 56.2	70	130
EK040P: Fluoride by PC Titrator (QCLot: 329160)							

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*
EK040P: Fluoride by PC Titrator (QCLot: 329160) - continued							
ES1600309-001	MW201_3.0	EK040P: Fluoride	16984-48-8	5 mg/L	# Not Determined	70	130
EK040P: Fluoride by PC Titrator (QCLot: 329161)							
ES1600309-021	REFACTORY COMPOSITE	EK040P: Fluoride	16984-48-8	5 mg/L	107	70	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1600309**	Page	: 1 of 6
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Telephone	: +61-2-8784 8555
Project	: A5130456 CWS	Date Samples Received	: 06-Jan-2016
Site	: ----	Issue Date	: 15-Jan-2016
Sampler	: ----	No. of samples received	: 21
Order number	: ----	No. of samples analysed	: 21

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.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK026SF: Total CN by Segmented Flow Analyser	ES1600508--001	Anonymous	**Total Cyanide**	57-12-5	56.2 %	70-130%	**Recovery less than lower data quality objective**
EK040P: Fluoride by PC Titrator	ES1600309--001	MW201_3.0	**Fluoride**	16984-48-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Method Blanks (MB)					
TCLP for Non & Semivolatile Analytes	0	33	0.00	9.09	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	34	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	34	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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 / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag - Subsampled by ALS (EA200)							
MW201_3.0, MW201_6.0, MW201_9.0, MW202_2.0, MW202_6.5, MW202_9.8, MW203_2.5, MW203_7.0, MW203_9.0, MW204_2.5, MW204_6.0, MW204_9.0, MM205_5.5, MM205_9.0, MM205_11.3, MW206_3.0, MW206_7.0, MW206_11.0, QA100, QA101, REFACTORY COMPOSITE	**02-Dec-2015**	**----**	----	----	**13-Jan-2016**	30-May-2016	✓

Matrix: **WATER**

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
EK026SF: Total CN by Segmented Flow Analyser							
White Plastic Bottle-NaOH (EK026SF)							
MW201_3.0, MW201_6.0, MW201_9.0, MW202_2.0, MW202_6.5, MW202_9.8, MW203_2.5, MW203_7.0, MW203_9.0, MW204_2.5, MW204_6.0, MW204_9.0, MM205_5.5, MM205_9.0, MM205_11.3, MW206_3.0, MW206_7.0, MW206_11.0, QA100, QA101, REFACTORY COMPOSITE	**08-Jan-2016**	**----**	----	----	**12-Jan-2016**	22-Jan-2016	✓
EK040P: Fluoride by PC Titrator							
Clear Plastic Bottle - Natural (EK040P)							
MW201_3.0, MW201_6.0, MW201_9.0, MW202_2.0, MW202_6.5, MW202_9.8, MW203_2.5, MW203_7.0, MW203_9.0, MW204_2.5, MW204_6.0, MW204_9.0, MM205_5.5, MM205_9.0, MM205_11.3, MW206_3.0, MW206_7.0, MW206_11.0, QA100, QA101, REFACTORY COMPOSITE	**11-Jan-2016**	**----**	----	----	**12-Jan-2016**	08-Feb-2016	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
MW201_3.0, MW201_6.0, MW201_9.0, MW202_2.0, MW202_6.5, MW202_9.8, MW203_2.5, MW203_7.0, MW203_9.0, MW204_2.5, MW204_6.0, MW204_9.0, MM205_5.5, MM205_9.0, MM205_11.3, MW206_3.0, MW206_7.0, MW206_11.0, QA100, QA101, REFACTORY COMPOSITE	**11-Jan-2016**	**13-Jan-2016**	18-Jan-2016	✓	**13-Jan-2016**	22-Feb-2016	✓

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*	
Method Blanks (MB)							
TCLP for Non & Semivolatile Analytes	EN33a	0	33	**0.00**	**9.09**	×	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)							
Fluoride by PC Titrator	EK040P	3	29	**10.34**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	34	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	3	23	**13.04**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Fluoride by PC Titrator	EK040P	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	4	23	**17.39**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Fluoride by PC Titrator	EK040P	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Fluoride by PC Titrator	EK040P	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	34	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	23	**8.70**	**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
Asbestos Identification in Soils	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN O. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM (2013) Schedule B(3)
Fluoride by PC Titrator	EK040P	SOIL	In house: Referenced to APHA 4500 F--C CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
TCLP for Volatile Analytes (Zero Headspace Extraction)	EN33Za	SOIL	In house QWI-EN/33 referenced to USEPA SW846-1311: ZHE (Toxicity Characteristic Leach Procedure - Zero Headspace Extraction) An extraction procedure to determine the mobility of volatile organic and inorganic analytes under specific conditions. This technique is compliant with NEPM (2013) Schedule B(3) (Method 101)

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES1600309**

Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR MARK TIEDEMAN	Contact	:
Address	: PO BOX 560 NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: mtiedeman@ramboll.com	E-mail	:
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Facsimile	: 02 4962 5888	Facsimile	: +61-2-8784 8500
Project	: A5130456 CWS	Page	: 1 of 4
Order number	: ----	Quote number	: ES2015ENVIAUS0373 (EN/072/15)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 06-Jan-2016 9:00 AM	Issue Date	: 07-Jan-2016
Client Requested Due Date	: 13-Jan-2016	Scheduled Reporting Date	: **13-Jan-2016**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 4.1' C
Receipt Detail	:	No. of samples received / analysed	: 21 / 21

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **This is a rebatch of ES1537731.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

Method / Client sample ID	Sample Container Received	Preferred Sample Container for Analysis
Asbestos Identification in Soils : EA200		
MW201_3.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW201_6.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW201_9.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW202_2.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW202_6.5	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW202_9.8	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW203_2.5	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW203_7.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW203_9.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW204_2.5	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW204_6.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW204_9.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MM205_5.5	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MM205_9.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MM205_11.3	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW206_3.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW206_7.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
MW206_11.0	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
QA100	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
QA101	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag
REFACTORY COMPOSITE	- Snap Lock Bag - Subsampled by ALS	- Snap Lock Bag - ACM/Asbestos Grab Sample bag

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA200 Asbestos Identification in Soils -	SOIL - EK026SF Total Cyanide by Segmented Flow Analyser	SOIL - EK040-P Fluoride(PC)	SOIL - EP075 SIM PAH only SIM - PAH only
ES1600309-001	[02-Dec-2015]	MW201_3.0	✓	✓	✓	✓
ES1600309-002	[02-Dec-2015]	MW201_6.0	✓	✓	✓	✓
ES1600309-003	[02-Dec-2015]	MW201_9.0	✓	✓	✓	✓
ES1600309-004	[02-Dec-2015]	MW202_2.0	✓	✓	✓	✓
ES1600309-005	[02-Dec-2015]	MW202_6.5	✓	✓	✓	✓
ES1600309-006	[02-Dec-2015]	MW202_9.8	✓	✓	✓	✓
ES1600309-007	[02-Dec-2015]	MW203_2.5	✓	✓	✓	✓
ES1600309-008	[02-Dec-2015]	MW203_7.0	✓	✓	✓	✓
ES1600309-009	[02-Dec-2015]	MW203_9.0	✓	✓	✓	✓
ES1600309-010	[02-Dec-2015]	MW204_2.5	✓	✓	✓	✓
ES1600309-011	[02-Dec-2015]	MW204_6.0	✓	✓	✓	✓
ES1600309-012	[02-Dec-2015]	MW204_9.0	✓	✓	✓	✓
ES1600309-013	[02-Dec-2015]	MM205_5.5	✓	✓	✓	✓
ES1600309-014	[02-Dec-2015]	MM205_9.0	✓	✓	✓	✓
ES1600309-015	[02-Dec-2015]	MM205_11.3	✓	✓	✓	✓
ES1600309-016	[02-Dec-2015]	MW206_3.0	✓	✓	✓	✓
ES1600309-017	[02-Dec-2015]	MW206_7.0	✓	✓	✓	✓
ES1600309-018	[02-Dec-2015]	MW206_11.0	✓	✓	✓	✓
ES1600309-019	[02-Dec-2015]	QA100	✓	✓	✓	✓
ES1600309-020	[02-Dec-2015]	QA101	✓	✓	✓	✓
ES1600309-021	[02-Dec-2015]	REFACTORY COMPOSITE	✓	✓	✓	✓

Proactive Holding Time Report

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

Requested Deliverables

Cindy Suen

- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	cindy.suen@alsglobal.com
- Chain of Custody (CoC) (COC)	Email	cindy.suen@alsglobal.com

KIRSTY GREENFIELD

- *AU Certificate of Analysis - NATA (COA)	Email	kgreenfield@ramboll.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kgreenfield@ramboll.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kgreenfield@ramboll.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	kgreenfield@ramboll.com
- Chain of Custody (CoC) (COC)	Email	kgreenfield@ramboll.com
- EDI Format - ENMRG (ENMRG)	Email	kgreenfield@ramboll.com
- EDI Format - EQUIS V5 Generic (EQUIS_V5)	Email	kgreenfield@ramboll.com
- EDI Format - ESDAT (ESDAT)	Email	kgreenfield@ramboll.com

MARK TIEDEMAN

- *AU Certificate of Analysis - NATA (COA)	Email	mtiedeman@ramboll.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mtiedeman@ramboll.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	mtiedeman@ramboll.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mtiedeman@ramboll.com
- A4 - AU Tax Invoice (INV)	Email	mtiedeman@ramboll.com
- Chain of Custody (CoC) (COC)	Email	mtiedeman@ramboll.com
- EDI Format - ENMRG (ENMRG)	Email	mtiedeman@ramboll.com
- EDI Format - ESDAT (ESDAT)	Email	mtiedeman@ramboll.com

5601-802 | 85 1

Fadi Soro

Tag:

6/1/16 90m

From: Fiona Robinson <frobinson@ramboll.com>
Sent: Tuesday, 5 January 2016 4:53 PM
To: Samples Sydney
Subject: Further analysis for ES1537731
Attachments: ES1537731_COC.pdf; ES1537731_0_COA.pdf

Subcon / Forward Lab / Split WO
Lab / Analysis: NEWCASTLE
Organised By / Date: Asbestos - 1 - 21
Relinquished By / Date:
Connote / Courier:
WO No: ES1600309
Attach By PO / Internal Sheet:

Hi
Can you please arrange for additional analysis of the attached as follows:

1. Presence of asbestos as free fibres presence/absence.
2. TCLP Leachable fluoride, TCLP PAHs and TCLP Cyanide.

Can you please also confirm that the analysis reported in the attached COA as 'Fluoride' was for soluble Fluoride.

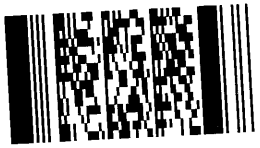
Many thanks,

Yours sincerely
Fiona Robinson

MEng
Principal, Hunter Manager
NSW EPA Accredited Site Auditor
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M +61 4 21311066
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Environmental Division
Sydney
Work Order Reference
ES1600309



Telephone : +61-2-8784 8555

1. MW201 - 3.0
2. " - 6.0
3. " - 9.0
4. MW202 - 2.0
5. " - 6.5
6. " - 9.8
7. MW203 - 2.5
8. " - 7.0
9. " - 9.0
10. MW204 - 2.5
11. " - 6.0
12. " - 9.0
13. MW205 - 5.5
14. " - 9.0
15. " - 17.3
16. MW206 - 3.0
17. " - 7.0
18. " - 11.0
19. QA100
20. QA101
21. Refractory composite

RAMBOLL ENVIRON

Ramboll Environ Australia Pty Ltd
ACN 095 437 442
ABN 49 095 437 442

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APPENDIX G
RESULTS

Sample Identification			NEPM 2013 HIL D[a]	EIL C/I[a]	NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand				NEPM 2013 Table 1 B(7) Management Limits for Comm/Ind, Coarse Soil	NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil	Chemical Control Order	MW201_3.0	MW201_6.0	MW201_9.0	MW201_11.5	MW201_14	MW202_2.0	MW202_6.5	MW202_9.8	MW202-12	MW202-13.5	QA101	MW203_2.5	QA100	MW203_7.0
					0-1m	1-2m	2-4m	>4m			NSWEPA 1986	2/12/2015	2/12/2015	2/12/2015	27/10/2015	28/10/2015	2/12/2015	2/12/2015	2/12/2015	5/11/2015		5/11/2015	2/12/2015		2/12/2015
Date		LOR																								
Strata												Waste	Waste	Waste	Sandy Clay	Sandy Clay	Waste	Waste	Waste	Clay	Clay		Waste		Waste
Depth		mbgs										3	6	9	11.5	14	2	6.5	9.8	12	13.5		2.5		7
Moisture Content (dried @ 103°C)	%	1										14.3	10.3	17.1	20.1	16.5	9	20	31	20.3	12	13.3	29.2	21.6	13.8
pH Value	pH Unit	0.1										9.1	9.6	9.9	9.7	10.1	11.4	10.2	10.1	10.5	9.9	9.8	9.7	9.4	9.8
Electrical Conductivity @ 25°C	µS/cm	1										-	-	-	1750	3230				3400	3850	4630			
Asbestos	presence	Y/N										No	Yes	Yes + Trace	-	-	No	Yes	Yes	-	-	-	No	No	Yes
Asbestos	Type											-	Am	Am	-	-	-	Am	Am	-	-	-	-	-	Ch + Am
Exchangeable Cations on Alkaline Soils																									
Exchangeable Calcium	meq/100g	0.2										<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2
Exchangeable Magnesium	meq/100g	0.2										<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2
Exchangeable Potassium	meq/100g	0.2										0.6	0.3	0.6	-	-	<0.2	0.4	1	-	-	-	1	1.2	0.6
Exchangeable Sodium	meq/100g	0.2										30.1	25.5	39.3	-	-	53.4	49.8	29.2	-	-	-	32.2	34.4	54.3
Cation Exchange Capacity	meq/100g	0.2										30.8	26	40	-	-	-	50.2	30.4	-	-	-	33.3	36.1	55.2
Exchangeable Calcium Percent	%	0.2										<0.2	<0.2	<0.2	-	-	0.5	<0.2	0.8	-	-	-	<0.2	1.4	0.4
Exchangeable Magnesium Percent	%	0.2										<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2
Exchangeable Potassium Percent	%	0.2										2.1	1.5	1.6	-	-	0.2	0.8	3.3	-	-	-	3.1	3.2	1.2
Exchangeable Sodium Percent	%	0.2										97.9	98.5	98.4	-	-	99.3	99.2	95.8	-	-	-	96.9	95.4	98.4
Magnesium/Potassium Ratio		0.2										<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2
Alkalinity																									
Total Alkalinity as CaCO3	mg/kg	1										-	-	-	788	2100	-	-	-	5580	5120	5840	-	-	-
Bicarbonate Alkalinity as CaCO3	mg/kg	1										-	-	-	394	1100	-	-	-	<5	2760	2950	-	-	-
Carbonate Alkalinity as CaCO3	mg/kg	1										-	-	-	394	998	-	-	-	5510	2360	2890	-	-	-
Sulfate																									
Sulfate as SO4 2-	mg/kg	10										-	-	-	380	950	-	-	-	2210	1920	2180	-	-	-
Chloride																									
Chloride	mg/kg	10										-	-	-	550	<100	-	-	-	210	290	530	-	-	-
Sodium																									
Sodium	mg/kg	10										3300	3810	7240	2990	5630	14500	14800	2990	3750	3760	4650	5960	3260	4660
Potassium																									
Potassium	mg/kg	10										-	-	-	1310	1600	-	-	-	40	60	40	-	-	-
Metals																									
Aluminium	mg/kg	50	NL*	-								-	-	-	10400	16100	-	-	-	7050	12300	16800	-	-	-
Mercury	mg/kg	0.1	730	-								-	-	-	<0.1	<0.1	-	-	-	<0.1	<0.1	<0.1	-	-	-
Cyanide																									
Total Cyanide	mg/kg	1	1,500	-								14	86	78	734	53	33	50	49	26	44	51	158	142	35
Total Cyanide (ZHE Leachate)	mg/L	0.004	-	-							10	0.624	4.12	4.67			0.388	3.31	2.71	-	-	-	1.48	1.93	1.97
Fluoride																									
Fluoride (total)	mg/kg	40	-	-								-	-	-	490	1170	-	-	-	2880	2140	3740	-	-	-
Fluoride (soluble)	mg/kg	1	17000	-								2440	2220	3030	-	-	21100	3220	1500	-	-	-	3560	2610	3120
Fluoride (TCLP Leachate)	mg/L	0.1									150	311	307	228	-	-	68.9	159	78.2	-	-	-	267	274	909
Polychlorinated Biphenyls																									
Total Polychlorinated biphenyls	mg/kg	0.1	7	-								-	-	-	<0.1	<0.1	-	-	-	<0.1	<0.1	<0.1	-	-	-
Polynuclear Aromatic Hydrocarbons																									
Naphthalene	mg/kg	0.5	-	370								<3.0	-	-	<0.5	<0.5	-	1	-	<0.5	<0.5	<0.5	-	-	-
Acenaphthylene	mg/kg	0.5	-	-								<3.0	-	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	-	-
Acenaphthene	mg/kg	0.5	-	-								15.3	-	-	<0.5	<0.5	-	2.2	-	0.6	<0.5	<0.5	-	-	-
Fluorene	mg/kg	0.5	-	-								7.1	-	-	<0.5	<0.5	-	1	-	<0.5	<0.5	<0.5	-	-	-
Phenanthrene	mg/kg	0.5	-	-								57.9	-	-	<0.5	<0.5	-	9.9	-	4.3	<0.5	<0.5	-	-	-
Anthracene	mg/kg	0.5	-	-								12.3	-	-	<0.5	<0.5	-	2.2	-	0.9	<0.5	<0.5	-	-	-
Fluoranthene	mg/kg	0.5	-	-								148	-	-	<0.5	0.6	-	27.3	-	10.2	<0.5	<0.5	-	-	-
Pyrene	mg/kg	0.5	-	-								126	-	-	<0.5	0.6	-	24.1	-	10.4	<0.5	<0.5	-	-	-
Benz(a)anthracene	mg/kg	0.5	-	-								132	-	-	<0.5	<0.5	-	21.7	-	4.9	<0.5	<0.5	-	-	-
Chrysene	mg/kg	0.5	-	-								116	-	-	<0.5	0.6	-	19.9	-	4.8	<0.5	<0.5	-	-	-
Benzo(b+j)fluoranthene	mg/kg	0.5	-	-								298	-	-	<0.5	0.5	-	42	-	7.4	<0.5	<0.5	-	-	-
Benzo(k)fluoranthene	mg/kg	0.5	-	-								-	-	-	<0.5	<0.5	-	-	-	2.7	<0.5	<0.5	-	-	-
Benzo(a)pyrene	mg/kg	0.5	-	-							72**	124	-	-	<0.5	<0.5	-	22.9	-	6.4	<0.5	<0.5	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.5	-	-								56.3	-	-	<0.5	<0.5	-	9	-	3.4	<0.5	<0.5	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.5	-	-								17	-	-	<0.5	<0.5	-	3.4	-	0.7	<0.5	<0.5	-	-	-
Benzo(g,h,i)perylene	mg/kg	0.5	-	-								59.5	-	-	<0.5	<0.5	-	9.4	-	4.8	<0.5	<0.5	-	-	-
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5	4,000	-								1110	-	-	<0.5	2.1	-	196	-	61.5	<0.5	<0.5	-	-	-
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	40									185	-	-	0.6	0.6	-	33.9	-	9	0.6	0.6	-	-	-
Polycyclic Aromatic Hydrocarbons - TCLP Leachate																									
Naphthalene	µg/L	1		370								5.8	2	<1.0	-	-	318	1.6	14.6	-	-	-	32.8	19.1	<1.0
Acenaphthylene	µg/L	1										<1.0	<1.0	<1.0	-	-	<1.0	<1.0	1.2	-	-	-	1.1	<1.0	<1.0
Acenaphthene	µg/L	1										15	<1.0	<1.0	-	-	10.3	2.7	216	-	-	-	157	66	<1.0
Fluorene	µg/L	1										4.7	<1.0	<1.0	-	-	<1.0	<1.0	90.6	-	-	-	27.7	11.6	<1.0
Phenanthrene	µg/L	1										11.3	<1.0	5.6	-	-	<1.0	1.6	137	-	-	-	28.8	10.7	<1.0
Anthracene	µg/L	1										2.3	<1.0	<1.0	-	-	<1.0	<1.0	17.1	-	-	-	12.8	4.6	<1.0
Fluoranthene	µg/L	1										5.4	<1.0	5.1	-	-	<1.0	1.8	21.9	-	-	-	14.4	5.7	<1.0
Pyrene	µg/L	1										4.2	<1.0	3.8	-	-	<1.0	1.5	17.6	-	-	-	9.9	3.6	<1.0
Benz(a)anthracene	µg/L	1										<1.0	<1.0	<1.0	-	-	<1.0	<1.0	2.7	-	-	-	<1.0	<1.0	<1.0
Chrysene	µg/L	1										<1.0	<1.0	<1.0	-	-	<1.0	<1.0	1.8	-	-	-	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	µg/L	1										<1.0	<1.0	<1.0	-	-	<1.0	<1.0	1.1	-	-	-	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	µg/L	1										<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0
Benzo(a)pyrene	µg/L	0.5										<0.5	<0.5	<0.5	-	-	<0.5	<0.5	0.7	-	-	-	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	µg/L	1										<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	µg/L	1										<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	µg/L	1										<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0
Sum of polycyclic aromatic hydrocarbons	µg/L	0.5										48.7	2	14.5	-	-	328	9.2	522	-	-	-	284	121	<0.5
Benzo(a)pyrene TEQ (zero)	µg/L	0.5										<0.5	<0.5	<0.5	-	-	<0.5	<0.5	1.1	-	-	-	<0.5	<0.5	<0.5
Total Petroleum Hydrocarbons																									
C6 - C9 Fraction	mg/kg	10										-	-	-	<10	<10	-	-	-	<10	<10	<10	-	-	-
C10 - C14 Fraction	mg/kg	50										-	-	-	<50	<50	-	-	-	<50	<50	<50	-	-	-
C15 - C28 Fraction	mg/kg	100										-	-	-	<100	<100	-	-	-	270	<100	<100	-	-	-
C29 - C36 Fraction	mg/kg	100										-	-	-	<100	<100	-	-	-	240	<100	<100	-	-	-
C10 - C36 Fraction (sum)	mg/kg	50										-	-	-	<50	<50	-	-	-	510	<50	<50	-	-	-
Total Recoverable Hydrocarbons																									
C6 - C10 Fraction	mg/kg	10										-	-	-	<10	<10	-	-	-	<10	<10	<10	-	-	-
C6 - C10 Fraction minus BTEX (F1)	mg/kg	10			260	370	630	NL	700	215		-	-	-	<10	<10	-	-	-	<10	<10	<10	-	-	-
>C10 - C16 Fraction	mg/kg	50										-	-	-	<50	<50	-	-	-	<50	<50	<50	-	-	-
>C16 - C34 Fraction	mg/kg	100							3,500	1,700		-	-	-	<100	<100	-	-	-	470	<100	<100	-	-	-
>C34 - C40 Fraction	mg/kg	100							10,000	3,300		-	-	-	<100	<100	-	-	-	<100	<100	<100	-	-	-
>C10 - C40 Fraction (sum)	mg/kg	50										-	-	-	<50	<50	-	-	-	470	<50	<50	-	-	-
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	50							1,000	170		-	-	-	<50	<50	-	-	-	<50	<50	<50	-	-	-
BTEXN																									
Benzene	mg/kg	0.2	3							75		-	-	-	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2	-	-	-
Toluene	mg/kg	0.5	-							135		-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	-	-
Ethylbenzene	mg/kg	0.5	-							165		-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	-	-
meta- & para-Xylene	mg/kg	0.5	-									-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	-	-
ortho-Xylene	mg/kg	0.5	-									-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	-	-
Total Xylenes	mg/kg	0.5	-		230	NL	NL	NL		180		-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	-	-
Sum of BTEX	mg/kg	0.2	-									-	-	-	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2	-	-	-
Naphthalene	mg/kg	1	-	370								-	-	-	<1	<1	-	-	-	<1	<1	<1	-	-	-
Monocyclic Aromatic Hydrocarbons																									
Benzene	mg/kg	0.2										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
meta- & para-Xylene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
ortho-Xylene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Isopropyltoluene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons																									
Naphthalene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-2-Fluorenyl Acetamide	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b+j) & Benzo(k)fluoranthene	mg/kg	1										-	-	-	-	-	-	-	-	-	-	-	-	-	-
7,12-Dimethylbenz(a)anthracene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Methylcholanthrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3,cd)pyrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sum of PAHs	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (zero)	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxygenated Compounds																									
Vinyl Acetate	mg/kg	5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone (MEK)	mg/kg	5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (MIBK)	mg/kg	5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone (MBK)	mg/kg	5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfonated Compounds																									
Carbon disulfide	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fumigants																									
2,2-Dichloropropane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropylene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropylene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sample Identification			NEPM 2013 HIL D[A]	EIL C/I[B]	NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand				NEPM 2013 Table 1 B(7) Management Limits for Comm/Ind, Coarse Soil	NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil	Chemical Control Order NSWEPA 1986	MW201_3.0	MW201_6.0	MW201_9.0	MW201_11.5	MW201_14	MW202_2.0	MW202_6.5	MW202_9.8	MW202-12	MW202-13.5	QA101	MW203_2.5	QA100	MW203_7.0
Date		LOR			0-1m	1-2m	2-4m	>4m				2/12/2015	2/12/2015	2/12/2015	27/10/2015	28/10/2015	2/12/2015	2/12/2015	2/12/2015	5/11/2015	5/11/2015		2/12/2015		2/12/2015
1,2-Dibromoethane (EDB)	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Halogenated Aliphatic Compounds																									
Dichlorodifluoromethane	mg/kg	5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	mg/kg	5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	5	0.1									-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	mg/kg	5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	mg/kg	5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iodomethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1.2-Dichloroethene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1-Dichloroethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1.2-Dichloroethene	mg/kg	0.5	0.3									-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.1-Trichloroethane	mg/kg	0.5	230									-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1-Dichloropropylene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2-Dichloroethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	0.5	0.08									-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.2-Trichloroethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.3-Dichloropropane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	0.5	8									-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.1.2-Tetrachloroethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1.4-Dichloro-2-butene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1.4-Dichloro-2-butene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1.2.2-Tetrachloroethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2.3-Trichloropropane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachloroethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2-Dibromo-3-chloropropane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Halogenated Aromatic Compounds																									
Chlorobenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2.3-Trichlorobenzene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trihalomethanes																									
Chloroform	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenolic Compounds																									
Phenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
3- & 4-Methylphenol	mg/kg	0.5										<6.0	-	-	-	-	-	<0.6	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
2.4-Dimethylphenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
2.4-Dichlorophenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
2.6-Dichlorophenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
2.4.6-Trichlorophenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
2.4.5-Trichlorophenol	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	1										<6	-	-	-	-	-	<1	-	-	-	-	-	-	-
Phthalate Esters																									
Dimethyl phthalate	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Di-n-butyl phthalate	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
bis(2-ethylhexyl) phthalate	mg/kg	5										<5.0	-	-	-	-	-	<5.0	-	-	-	-	-	-	-
Di-n-octylphthalate	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Nitrosamines																									
N-Nitrosomethylethylamine	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
N-Nitrosodiethylamine	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
N-Nitrosopyrrolidine	mg/kg	1										<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
N-Nitrosomorpholine	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
N-Nitrosopiperidine	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
N-Nitrosodibutylamine	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
N-Nitrosodiphenyl & Diphenylamine	mg/kg	1										<6.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
Methapyrilene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Nitroaromatics and Ketones																									
2-Picoline	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Acetophenone	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Nitrobenzene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Isophorone	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
2.6-Dinitrotoluene	mg/kg	1										<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
2.4-Dinitrotoluene	mg/kg	1										<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
1-Naphthylamine	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
4-Nitroquinoline-N-oxide	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
5-Nitro-o-toluidine	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Azobenzene	mg/kg	1										<3	-	-	-	-	-	<1	-	-	-	-	-	-	-
1.3.5-Trinitrobenzene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Phenacetin	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
4-Aminobiphenyl	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Pentachloronitrobenzene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Pronamide	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Dimethylaminoazobenzene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Chlorobenzilate	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Haloethers																									
Bis(2-chloroethyl) ether	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Bis(2-chloroethoxy) methane	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Chlorinated Hydrocarbons																									
1.3-Dichlorobenzene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
1.4-Dichlorobenzene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
1.2-Dichlorobenzene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
1.2.4-Trichlorobenzene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Hexachloropropylene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	2.5										<3.0	-	-	-	-	-	<2.5	-	-	-	-	-	-	-
Pentachlorobenzene	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Hexachlorobenzene (HCB)	mg/kg	1										<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
Anilines and Benzidines																									
Aniline	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
4-Chloroaniline	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	1										<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	1										<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
Dibenzofuran	mg/kg	0.5										**7.3**	-	-	-	-	-	**1.1**	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Carbazole	mg/kg	0.5										**10.6**	-	-	-	-	-	**1.7**	-	-	-	-	-	-	-
3.3-Dichlorobenzidine	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Organochlorine Pesticides																									
alpha-BHC	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
beta-BHC	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
gamma-BHC	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
delta-BHC	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Heptachlor	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Aldrin	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
alpha-Endosulfan	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
4.4 -DDE	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Dieldrin	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Endrin	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
beta-Endosulfan	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
4.4 -DDD	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Endosulfan sulfate	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
4.4 -DDT	mg/kg	1		640								<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-
Sum of DDD + DDE + DDT	mg/kg	0.5										<2.4	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Sum of Aldrin + Dieldrin	mg/kg	0.5										<2.4	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Organophosphorus Pesticides																									
Dichlorvos	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Dimethoate	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Diazinon	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Chlorpyrifos-methyl	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Malathion	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Fenthion	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Chlorpyrifos	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Pirimphos-ethyl	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Chlorfenvinphos	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Prothiofos	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-
Ethion	mg/kg	0.5										<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-

Shaded results exceeds adopted site criteria, or most sensitive adopted site criteria if multiple criteria exceeded
LOR = Limit of Reporting
<value = Less than the laboratory Limit of Reporting (LOR)
BTEX = benzene, toluene, ethylbenzene, xylene. MAH = monocyclic aromatic hydrocarbons. TPH / TRH = total petroleum / recoverable hydrocarbons. PAH = Polynuclear Aromatic Hydrocarbons.
NEPM (2013) Management Limits for TPH Fractions F1 to F4 in coarse grained soil for Commercial and Industrial sites
Blank cell indicates no criterion available
* EIL values used for Commercial and Industrial sites
**ESL from Canadian Council of Ministries of the Environment (2010) Canadian Soil Quality Guidelines Carcinogenic and Other PAHs (Environmental and Human Health Effects) Scientific Criteria Document (revised)

Sample Identification			NEPM 2013 HIL D[a]	EIL C/I[a]	NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand				NEPM 2013 Table 1 B(7) Management Limits for Comm/Ind, Coarse Soil	NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil	Chemical Control Order	MW203_9.0	MW203_12.5	MW203_14.5	MW204_2.5	QA101	QA201	MW204_4	MW204_6.0	MW204_9.0	MW204_12.2	MW204_14.0	MW205_5.5	MW205_9.0	MW205_11.3	MW205_12.2	MW205_14.5	MW206_3.0	MW206_7.0	MW206_11.0	MW206_12	MW206_13	MW206_13.5	MW206_14	MW206_15.0
					0-1m	1-2m	2-4m	>4m			NSWEPA 1986	2/12/2015	29/10/2015	29/10/2015	2/12/2015	2/12/2015	2/12/2015	6/11/2015	2/12/2015	2/12/2015	6/11/2015	2/12/2015	6/11/2015	2/12/2015	2/12/2015	30/10/2015	30/10/2015	2/12/2015	2/12/2015	2/12/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Date		LOR										Waste	Sandy Clay	Sandy Clay	Waste			Waste	Waste	Waste	Sandy clay	Sandy clay	Waste	Waste	Waste	Sand	Sandy clay	Waste	Waste	Waste	Sand	Sand	Sand	Sand	Sand
Strata												9	12.5	14.5	2.5			4	6	9	12.2	14	5.5	9	11.3	12.2	14.5	3	7	11	12	13	13.5	14	15
Depth		mbgs										13.6	16.9	18.7	16.8	21.8	19	-	15.6	13.8	20	11	11.1	8.6	11.4	13.4	11.6	21.5	16.6	20.9	23.1	-	-	-	20
Moisture Content (dried @ 103°C)	%	1										11.4	10.5	10	6.3	6.4	6.3	-	10.7	11.3	10.2	9.6	8.3	10.7	9.4	10.3	9.2	10.4	9.6	9.8	9.9	-	-	-	10.5
pH Value	pH Unit	0.1											2210	1080			7900				5250	547				3490	100				4840	-	-	-	4030
Electrical Conductivity @ 25°C	µS/cm	1										Yes	-	-	No	No	-	No	No	No	-	-	No	No	No	-	-	No	No	No	-	-	-	-	-
Asbestos	presence	Y/N										Am	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos	Type																																		
Exchangeable Cations on Alkaline Soils																																			
Exchangeable Calcium	meq/100g	0.2										0.4	-	-	<0.2	22.8	-	-	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	-	-
Exchangeable Magnesium	meq/100g	0.2										<0.2	-	-	<0.2	0.2	-	-	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	-	-
Exchangeable Potassium	meq/100g	0.2										0.9	-	-	<0.2	0.1	-	-	0.6	0.6	-	-	<0.2	<0.2	0.5	-	-	1.6	1	1.9	-	-	-	-	-
Exchangeable Sodium	meq/100g	0.2										78.3	-	-	16.5	17.5	-	-	63.2	76.4	-	-	4.6	17.5	23	-	-	68.8	38.5	53.4	-	-	-	-	-
Cation Exchange Capacity	meq/100g	0.2										79.7	-	-	18.6	42.8	70	-	63.9	77.5	-	-	5	17.9	23.5	-	-	70.7	39.6	55.8	-	-	-	-	-
Exchangeable Calcium Percent	%	0.2										0.6	-	-	10.7	-	-	-	<0.2	0.1	-	-	5	1.4	<0.2	-	-	0.4	<0.2	0.4	-	-	-	-	-
Exchangeable Magnesium Percent	%	0.2										<0.2	-	-	<0.2	-	-	-	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	-	-
Exchangeable Potassium Percent	%	0.2										1.1	-	-	0.7	-	-	-	1	0.8	-	-	2.6	0.7	2.2	-	-	2.4	2.6	3.4	-	-	-	-	-
Exchangeable Sodium Percent	%	0.2										98.2	-	-	88.6	-	-	-	99	98.8	-	-	92.3	97.9	97.8	-	-	97.3	97.4	96.1	-	-	-	-	-
Magnesium/Potassium Ratio		0.2										<0.2	-	-	<0.2	-	-	-	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	-	-
Alkalinity																																			
Total Alkalinity as CaCO3	mg/kg	1										-	1320	341	-	-	-	-	-	-	853	7420	-	-	-	1100	39	-	-	-	3280	-	-	-	1340
Bicarbonate Alkalinity as CaCO3	mg/kg	1										-	726	131	-	-	-	-	-	-	591	5320	-	-	-	420	39	-	-	-	2230	-	-	-	499
Carbonate Alkalinity as CaCO3	mg/kg	1										-	594	210	-	-	-	-	-	-	262	2100	-	-	-	682	<5	-	-	-	1050	-	-	-	840
Sulfate																																			
Sulfate as SO4 2-	mg/kg	10										-	2140	460	-	-	-	-	-	-	1250	200	-	-	-	1890	100	-	-	-	2480	-	-	-	2400
Chloride																																			
Chloride	mg/kg	10										-	660	780	-	-	-	-	-	-	1180	710	-	-	-	130	40	-	-	-	150	-	-	-	130
Sodium																																			
Sodium	mg/kg	10										16400	3450	1860	8040	6770	40000	-	16400	18000	6940	970	1510	7250	3870	3880	170	12200	2960	5450	6730	-	-	-	5170
Potassium																																			
Potassium	mg/kg	10										-	770	760	-	-	-	-	-	-	1210	780	-	-	-	20	100	-	-	-	60	-	-	-	40
Metals																																			
Aluminium	mg/kg	50	NL*	-								-	15100	4460	-	-	-	-	-	-	14800	5080	-	-	-	3330	4530	-	-	-	103000	-	-	-	8890
Mercury	mg/kg	0.1	730	-								-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	<0.1	-	-	-	0.1	-	-	-	<0.1
Cyanide																																			
Total Cyanide	mg/kg	1	1,500	-								70	532	4	20	23	<5	-	72	45	114	<1	77	56	71	58	<1	139	110	57	100	-	-	-	60
Total Cyanide (ZHE Leachate)	mg/L	0.004	-	-							10	8.54	-	-	<0.004	<0.004	-	-	6.07	5.16	-	-	1.19	3.49	0.198	-	-	7.08	8.01	0.87	-	-	-	-	-
Fluoride																																			
Fluoride (total)	mg/kg	40	-	-								-	1700	90	-	-	-	-	-	-	2290	110	-	-	-	830	200	-	-	-	69000	-	-	-	1510
Fluoride (soluble)	mg/kg	1	17000	-								21000	-	-	184	192	110	-	10500	18400	-	-	1240	12700	1740	-	-	5470	2390	2410	2700	2360	1490	574	-
Fluoride (TCLP Leachate)	mg/L	0.1									150	608	-	-	217	267	-	-	795	762	-	-	271	144	292	-	-	496	747	154	-	-	-	-	-
Polychlorinated Biphenyls																																			
Total Polychlorinated biphenyls	mg/kg	0.1	7	-								-	<0.1	<0.1	-	-	-	-	-	-	0.1	<0.1	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-	-	<0.1
Polynuclear Aromatic Hydrocarbons																																			
Naphthalene	mg/kg	0.5	-	370								<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	-	-	3.8	<0.5	<0.5	-	-	8.1	<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	-	-	<3.0	<0.5	<0.5	-	-	<3.0	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5	-	-								<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	0.8	<0.5	-	-	27	<0.5	<0.5	-	-	41.7	3.4	<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	-	-	9.9	<0.5	<0.5	-	-	25.5	1.8	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5	-	-								<0.5	2.6	<0.5	8.3	-	-	-	-	-	4.2	<0.5	-	-	186	<0.5	<0.5	-	-	212	13.4	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5	-	-								<0.5	0.5	<0.5	1	-	-	-	-	-	0.8	<0.5	-	-	44.8	<0.5	<0.5	-	-	105	3.2	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5	-	-								0.5	6.6	<0.5	47	-	-	-	-	-	8.4	<0.5	-	-	739	1.6	<0.5	-	-	508	42.2	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5	-	-								<0.5	6.4	<0.5	22.9	-	-	-	-	-	8.5	<0.5	-	-	706	1.6	<0.5	-	-	649	45.3	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5	-	-								<0.5	2.8	<0.5	19.5	-	-	-	-	-	3.9	<0.5	-	-	731	1.3	<0.5	-	-	550	48.2	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5	-	-								<0.5	2.8	<0.5	52.5	-	-	-	-	-	4	<0.5	-	-	626	1.4	<0.5	-	-	448	49.3	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	mg/kg	0.5	-	-								<1	3.3	<0.5	55	-	-	-	-	-	5.6	<0.5	-	-	1130	2	<0.5	-	-	990	86	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	mg/kg	0.5	-	-									0.9	<0.5							1.9	<0.5				0.8	<0.5				22.8	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	mg/kg	0.5	-	-						72**		<0.5	2.8	<0.5	5.1	-	-	-	-	-	4.9	<0.5	-	-	832	1.8	<0.5	-	-	536	60	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.5	-	-								<0.5	1.7	<0.5	5.6	-	-	-	-	-	2.7	<0.5	-	-	442	0.9	<0.5	-	-	270	39.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5	-	-								<0.5	<0.5	<0.5	2.6	-	-	-	-	-	0.5	<0.5	-	-	116	<0.5	<0.5	-	-	78.1	12.6	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5	-	-								<0.5	1.9	<0.5	5.4	-	-	-	-	-	3.9	<0.5	-	-	528	1.1	<0.5	-	-	284	47.2	<0.5	<0.5	<0.5	<0.5
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5	4,000	-								0.5	32.3	<0.5	225	-	-	-	-	-	50.1	<0.5	-	-	6,320	12.5	<0.5	-	-	4,500	475	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	40									0.6	4	0.6	16.3	-	-	-	-	-	6.9	0.6	-	-	1210	2.6	0.6	-	-	802	93.2	0.6	0.6	0.6	0.6
Polycyclic Aromatic Hydrocarbons - TCLP Leachate																																			
Naphthalene	µg/L	1		370								<1.0	-	-	1.2	<1.0	-	-	11.4	3.3	-	-	<1.0	21.2	5.5	-	-	1.2	2.5	3.5	-	-	-	-	-
Acenaphthylene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-
Acenaphthene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	10.9	10.6	-	-	3.4	7.6	11	-	-	<1.0	2.7	10.3	-	-	-	-	-
Fluorene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	2.5	1.1	-	-	1.4	3.6	4.6	-	-	<1.0	<1.0	10.2	-	-	-	-	-
Phenanthrene	µg/L	1										<1.0	-	-	3.5	<1.0	-	-	12.4	10.6	-	-	6.6	19.3	12.8	-	-	2.3	3	13.1	-	-	-	-	-
Anthracene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	1.8	<1.0	-	-	1.3	3.1	2.9	-	-	<1.0	<1.0	11.8	-	-	-	-	-
Fluoranthene	µg/L	1										<1.0	-	-	7.9	1.7	-	-	3.6	2.7	-	-	4.6	6.8	9.3	-	-	1.8	1.2	6.3	-	-	-	-	-
Pyrene	µg/L	1										<1.0	-	-	3.7	<1.0	-	-	4	2.1	-	-	4	5.6	8	-	-	1.2	1	5.3	-	-	-	-	-
Benz(a)anthracene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	1.4	-	-	<1.0	<1.0	<1.0	-	-	-	-	-
Chrysene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	1.1	-	-	<1.0	<1.0	<1.0	-	-	-	-	-
Benzo(b+j)fluoranthene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-
Benzo(a)pyrene	µg/L	0.5										<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	1										<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-
Sum of polycyclic aromatic hydrocarbons	µg/L	0.5										<0.5	-	-	16.3	1.7	-	-	45.6	30.4	-	-	21.3	67.2	56.6	-	-	6.5	10.4	60.5	-	-	-	-	-
Benzo(a)pyrene TEQ (zero)	µg/L	0.5										<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-	-	-	-
Total Petroleum Hydrocarbons																																			
C6 - C9 Fraction	mg/kg	10										-	<10	<10	-	-	-	-	-	-	<10	<10	-	-	-	<10	<10	-	-	-	<10	-	-	-	<10
C10 - C14 Fraction	mg/kg	50										-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	<50	-	-	-	<50
C15 - C28 Fraction	mg/kg	100										-	<100	<100	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-	-	1020	-	-	-	<100
C29 - C36 Fraction	mg/kg	100										-	<100	<100	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-	-	1860	-	-	-	<100
C10 - C36 Fraction (sum)	mg/kg	50										-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	2880	-	-	-	<50
Total Recoverable Hydrocarbons																																			
C6 - C10 Fraction	mg/kg	10										-	<10	<10	-	-	-	-	-	-	<10	<10	-	-	-	<10	<10	-	-	-	<10	-	-	-	<10
C6 - C10 Fraction minus BTEX (F1)	mg/kg	10			260	370	630	NL	700	215		-	<10	<10	-	-	-	-	-	-	<10	<10	-	-	-	<10	<10	-	-	-	<10	-	-	-	<10
>C10 - C16 Fraction	mg/kg	50										-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	<50	-	-	-	<50
>C16 - C34 Fraction	mg/kg	100							3,500	1,700		-	<100	<100	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-	-	2,340	-	-	-	<100
>C34 - C40 Fraction	mg/kg	100							10,000	3,300		-	<100	<100	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-	-	1120	-	-	-	<100
>C10 - C40 Fraction (sum)	mg/kg	50										-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	3460	-	-	-	<50
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	50							1,000	170		-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	<50	-	-	-	<50
BTEXN																																			
Benzene	mg/kg	0.2	3							75		-	<0.2	<0.2	-	-	-	-	-	-	<0.2	<0.2	-	-	-	<0.2	<0.2	-	-	-	<0.2	-	-	-	<0.2
Toluene	mg/kg	0.5	-							135		-	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	<0.5	-	-	-	<0.5
Ethylbenzene	mg/kg	0.5	-							165		-	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	<0.5	-	-	-	<0.5
meta- & para-Xylene	mg/kg	0.5	-									-	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	<0.5	-	-	-	<0.5
ortho-Xylene	mg/kg	0.5	-									-	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	<0.5	-	-	-	<0.5
Total Xylenes	mg/kg	0.5	-		230	NL	NL	NL		180		-	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	<0.5	-	-	-	<0.5
Sum of BTEX	mg/kg	0.2	-									-	<0.2	<0.2	-	-	-	-	-	-	<0.2	<0.2	-	-	-	<0.2	<0.2	-	-	-	<0.2	-	-	-	<0.2
Naphthalene	mg/kg	1	-	370								-	<1	<1	-	-	-	-	-	-	<1	<1	-	-	-	<1	<1	-	-	-	<1	-	-	-	<1
Monocyclic Aromatic Hydrocarbons																																			
Benzene	mg/kg	0.2											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-
Toluene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Ethylbenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
meta- & para-Xylene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Styrene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
ortho-Xylene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Isopropylbenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
n-Propylbenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1,3,5-Trimethylbenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
sec-Butylbenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1,2,4-Trimethylbenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
tert-Butylbenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
p-Isopropyltoluene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
n-Butylbenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Polynuclear Aromatic Hydrocarbons																																			
Naphthalene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	-
2-Methylnaphthalene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-
2-Chloronaphthalene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Acenaphthylene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Acenaphthene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.1	-	-	-	-
Fluorene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	-	-	-	-
Phenanthrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-
Anthracene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	-	-	-	-
Fluoranthene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	-	-	-	-
Pyrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90.4	-	-	-	-
N-2-Fluorenyl Acetamide	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Benz(a)anthracene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	-	-	-	-
Chrysene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96.3	-	-	-	-
Benzo(b+j) & Benzo(k)fluoranthene	mg/kg	1										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	230	-	-	-	-
7,12-Dimethylbenz(a)anthracene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Benzo(a)pyrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	128	-	-	-	-
3-Methylcholanthrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66.4	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.6	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64.5	-	-	-	-
Sum of PAHs	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	938	-	-	-	-
Benzo(a)pyrene TEQ (zero)	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	188	-	-	-	-
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	188	-	-	-	-
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	188	-	-	-	-
Oxygenated Compounds																																			
Vinyl Acetate	mg/kg	5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
2-Butanone (MEK)	mg/kg	5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
4-Methyl-2-pentanone (MIBK)	mg/kg	5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
2-Hexanone (MBK)	mg/kg	5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
Sulfonated Compounds																																			
Carbon disulfide	mg/kg	0.5											-	-	-	-	-	-	-

Sample Identification			NEPM 2013 HIL D[a]	EIL C/I[a]	NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand				NEPM 2013 Table 1 B(7) Management Limits for Comm/Ind, Coarse Soil	NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil	Chemical Control Order NSWEPA 1986	MW203_9.0	MW203_12.5	MW203_14.5	MW204_2.5	QA101	QA201	MW204_4	MW204_6.0	MW204_9.0	MW204_12.2	MW204_14.0	MW205_5.5	MW205_9.0	MW205_11.3	MW205_12.2	MW205_14.5	MW206_3.0	MW206_7.0	MW206_11.0	MW206_12	MW206_13	MW206_13.5	MW206_14	MW206_15.0
Date		LOR			0-1m	1-2m	2-4m	>4m				2/12/2015	29/10/2015	29/10/2015	2/12/2015	2/12/2015	2/12/2015	6/11/2015	2/12/2015	2/12/2015	6/11/2015	6/11/2015	2/12/2015	2/12/2015	2/12/2015	30/10/2015	30/10/2015	2/12/2015	2/12/2015	2/12/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
1,2-Dibromoethane (EDB)	mg/kg	0.5										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Halogenated Aliphatic Compounds																																			
Dichlorodifluoromethane	mg/kg	5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
Chloromethane	mg/kg	5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
Vinyl chloride	mg/kg	5	0.1										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
Bromomethane	mg/kg	5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
Chloroethane	mg/kg	5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
Trichlorofluoromethane	mg/kg	5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-
1,1-Dichloroethene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Iodomethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
trans-1.2-Dichloroethene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1.1-Dichloroethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
cis-1.2-Dichloroethene	mg/kg	0.5	0.3										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1,1,1-Trichloroethane	mg/kg	0.5	230										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1,1-Dichloropropylene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Carbon Tetrachloride	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1.2-Dichloroethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Trichloroethene	mg/kg	0.5	0.08										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Dibromomethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1,1,2-Trichloroethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1,3-Dichloropropane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Tetrachloroethene	mg/kg	0.5	8										-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1.1.1.2-Tetrachloroethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
trans-1.4-Dichloro-2-butene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
cis-1.4-Dichloro-2-butene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1,2,3-Trichloropropane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Pentachloroethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1.2-Dibromo-3-chloropropane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Halogenated Aromatic Compounds																																			
Chlorobenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Bromobenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
2-Chlorotoluene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
4-Chlorotoluene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
1,2,3-Trichlorobenzene	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Trihalomethanes																																			
Chloroform	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Bromodichloromethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Dibromochloromethane	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Bromoform	mg/kg	0.5											-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
Phenolic Compounds																																			
Phenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
2-Chlorophenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
2-Methylphenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
3- & 4-Methylphenol	mg/kg	0.5										<0.6	-	-	<0.6	-	-	-	-	-	-	-	-	-	-	<6.0	-	-	-	-	<6.0	<0.5	-	-	-	-
2-Nitrophenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
2.4-Dimethylphenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
2.4-Dichlorophenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
2.6-Dichlorophenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
2.4.6-Trichlorophenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
2.4.5-Trichlorophenol	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Pentachlorophenol	mg/kg	1										<1	-	-	<1	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	<6	<1	-	-	-	-
Phthalate Esters																																			
Dimethyl phthalate	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Diethyl phthalate	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Di-n-butyl phthalate	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
bis(2-ethylhexyl) phthalate	mg/kg	5										<5.0	-	-	<5.0	-	-	-	-	-	-	-	-	-	-	<5.0	-	-	-	-	<5.0	<5.0	-	-	-	-
Di-n-octylphthalate	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Nitrosamines																																			
N-Nitrosomethylethylamine	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
N-Nitrosodiethylamine	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
N-Nitrosopyrrolidine	mg/kg	1										<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<1.0	-	-	-	-
N-Nitrosomorpholine	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
N-Nitrosopiperidine	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
N-Nitrosodibutylamine	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
N-Nitrosodiphenyl & Diphenylamine	mg/kg	1										<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	<6.0	-	-	-	-	<6.0	<1.0	-	-	-	-
Methapyrilene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Nitroaromatics and Ketones																																			
2-Picoline	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Acetophenone	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Nitrobenzene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Isophorone	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
2.6-Dinitrotoluene	mg/kg	1										<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<1.0	-	-	-	-
2.4-Dinitrotoluene	mg/kg	1										<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<1.0	-	-	-	-
1-Naphthylamine	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
4-Nitroquinoline-N-oxide	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
5-Nitro-o-toluidine	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Azobenzene	mg/kg	1										<1	-	-	<1	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	<3	<1	-	-	-	-
1.3.5-Trinitrobenzene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Phenacetin	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
4-Aminobiphenyl	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Pentachloronitrobenzene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Pronamide	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Dimethylaminoazobenzene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Chlorobenzilate	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Haloethers																																			
Bis(2-chloroethyl) ether	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Bis(2-chloroethoxy) methane	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Chlorinated Hydrocarbons																																			
1.3-Dichlorobenzene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
1.4-Dichlorobenzene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
1.2-Dichlorobenzene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Hexachloroethane	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
1.2.4-Trichlorobenzene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Hexachloropropylene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Hexachlorobutadiene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	2.5										<2.5	-	-	<2.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<2.5	-	-	-	-
Pentachlorobenzene	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Hexachlorobenzene (HCB)	mg/kg	1										<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<1.0	-	-	-	-
Anilines and Benzidines																																			
Aniline	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
4-Chloroaniline	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
2-Nitroaniline	mg/kg	1										<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<1.0	-	-	-	-
3-Nitroaniline	mg/kg	1										<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<1.0	-	-	-	-
Dibenzofuran	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	**7.5**	-	-	-	-	**44.4**	3.5	-	-	-	-
4-Nitroaniline	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Carbazole	mg/kg	0.5										<0.5	-	-	**1.1**	-	-	-	-	-	-	-	-	-	-	**46.7**	-	-	-	-	**50.5**	6.6	-	-	-	-
3.3`-Dichlorobenzidine	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Organochlorine Pesticides																																			
alpha-BHC	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
beta-BHC	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
gamma-BHC	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
delta-BHC	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Heptachlor	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Aldrin	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Heptachlor epoxide	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
alpha-Endosulfan	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
4.4`-DDE	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Dieldrin	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Endrin	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
beta-Endosulfan	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
4.4`-DDD	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Endosulfan sulfate	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
4.4`-DDT	mg/kg	1	640									<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<1.0	-	-	-	-
Sum of DDD + DDE + DDT	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<2.4	-	-	-	-	<2.4	<1.5	-	-	-	-
Sum of Aldrin + Dieldrin	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<2.4	-	-	-	-	<2.4	<1.5	-	-	-	-
Organophosphorus Pesticides																																			
Dichlorvos	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Dimethoate	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Diazinon	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Chlorpyrifos-methyl	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Malathion	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Fenthion	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Chlorpyrifos	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Pirimphos-ethyl	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Chlorfenvinphos	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Prothiofos	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-
Ethion	mg/kg	0.5										<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	<3.0	<0.5	-	-	-	-

Shaded results exceeds adopted site criteria, or most sensitive adopted site criteria if multiple criteria exceeded
LOR = Limit of Reporting
<value = Less than the laboratory Limit of Reporting (LOR)
BTEX = benzene, toluene, ethylbenzene, xylene. MAH = monocyclic aromatic hydrocarbons. TPH / TRH = total petroleum / recoverable hydrocarbons. PAH = Polynuclear Aromatic Hydrocarbons.
NEPM (2013) Management Limits for TPH Fractions F1 to F4 in coarse grained soil for Commercial and Industrial sites
Blank cell indicates no criterion available
* EIL values used for Commercial and Industrial sites
**ESL from Canadian Council of Ministries of the Environment (2010) Canadian Soil Quality Guidelines Carcinogenic and Other PAHs (Environmental and Human Health Effects) Scientific Criteria Document (revised)

Sample ID:				NEPM 2013 Table 1A(4) Comm/Ind D Groundwater HSL for Vapour Intrusion, >8m sand	95% Protection for Aquatic Ecosystems	Recreational Use	Irrigation (long-term trigger value)	Stock Watering	MW202_20151111	MW203_20151111	MW204_20151111	MW206_20151111*	QA101
Date:		LOR							11/11/2015	11/11/2015	11/11/2015	11/11/2015	
Alkalinity													
Hydroxide Alkalinity as CaCO3	mg/L	1							<1	-	-	<1	<1
Carbonate Alkalinity as CaCO3	mg/L	1							26700	-	-	24700	26200
Bicarbonate Alkalinity as CaCO3	mg/L	1							727	-	-	242	727
Total Alkalinity as CaCO3	mg/L	1							27400	-	-	25000	26900
Sulfate													
Sulfate as SO4 - Turbidimetric	mg/L	1							1250	-	-	9000	9460
Chloride													
Chloride	mg/L	1							568	-	-	522	553
Sodium													
Sodium	mg/L	1							8300	-	-	16700	17400
Potassium													
Potassium	mg/L	1							13	-	-	68	73
Metals (disolved)													
Aluminium	µg/L	10			55	9,000	5,000	5,000	200	-	790	2410	2860
Mercury	µg/L	0.1			0.6	10	2	2	<0.1	-	-	<0.1	<0.1
Cyanide													
Total Cyanide	mg/L	0.004			-	-	-	-	7.81	-	227	223	207
Free Cyanide	mg/L	0.004			0.007	0.8			<0.040	<0.400	<0.400	<0.400	
Fluoride													
Fluoride	mg/L	0.1			-	*1.5*	**1**	2	***1880***	0.2	***1380***	***1640***	***1720***
PCBs													
Total Polychlorinated biphenyls	µg/L	1							<1	-	-	<1	<1
Polynuclear Aromatic Hydrocarbons													
Naphthalene	µg/L	1			16	-	-	-	1.4	-	-	30.2	38.8
Acenaphthylene	µg/L	1							<1.0	-	-	<1.0	<1.0
Acenaphthene	µg/L	1							<1.0	-	-	3.5	3.5
Fluorene	µg/L	1							<1.0	-	-	2.1	1.8
Phenanthrene	µg/L	1			2	-	-	-	<1.0	-	-	6	4.3
Anthracene	µg/L	1							<1.0	-	-	2.7	2.2
Fluoranthene	µg/L	1			1	-	-	-	<1.0	-	-	8.8	5.3
Pyrene	µg/L	1							1	-	-	8.7	5.2
Benz(a)anthracene	µg/L	1							<1.0	-	-	9.2	4.4
Chrysene	µg/L	1							<1.0	-	-	8.4	3.9
Benzo(b+j)fluoranthene	µg/L	1							<1.0	-	-	12.3	5.4
Benzo(k)fluoranthene	µg/L	1							<1.0	-	-	3.9	2
Benzo(a)pyrene	µg/L	0.5							<0.5	-	-	9.6	4.1
Indeno(1.2.3.cd)pyrene	µg/L	1							<1.0	-	-	7	2.8
Dibenz(a.h)anthracene	µg/L	1							<1.0	-	-	1.7	<1
Benzo(g.h.i)perylene	µg/L	1							<1.0	-	-	8.2	3.2
Sum of polycyclic aromatic hydroc	µg/L	0.5							2.4	-	-	122	86.9
Benzo(a)pyrene TEQ (zero)	µg/L	0.5							<0.5	-	-	14.7	5.6
Total Petroleum Hydrocarbons													
C6 - C9 Fraction	µg/L	20							110	-	-	330	310
C10 - C14 Fraction	µg/L	50							<50	-	-	200	200
C15 - C28 Fraction	µg/L	100							<100	-	-	540	530
C29 - C36 Fraction	µg/L	50							120	-	-	100	90
C10 - C36 Fraction (sum)	µg/L	50							120	-	-	840	820
C6-C36 Fraction (sum)	µg/L	220			LOR	-	**LOR**	*LOR*	***350***	-	-	***2010***	***1950***
Total Recoverable Hydrocarbons													
C6 - C10 Fraction	µg/L	20							120	-	-	330	310
C6 - C10 Fraction minus BTEX (F1)	µg/L	20		7000					90	-	-	320	300
>C10 - C16 Fraction	µg/L	100							<100	-	-	330	310
>C16 - C34 Fraction	µg/L	100							460	-	-	540	460
>C34 - C40 Fraction	µg/L	100							140	-	-	<100	<100
>C10 - C40 Fraction (sum)	µg/L	100							600	-	-	870	770
>C10 - C16 Fraction minus Naphth	µg/L	100							<100	-	-	280	250
BTEXN													
Benzene	µg/L	1		5000	950	*10*	-	-	*23*	-	-	3	3
Toluene	µg/L	2			180 (LR)	250	-	800 (25)	6	-	-	4	5
Ethylbenzene	µg/L	2			80 (LR)	0.1	-	0.01	<2	-	-	<2	<2
meta- & para-Xylene	µg/L	2							<2	-	-	3	4
ortho-Xylene	µg/L	2							<2	-	-	<2	<2
Total Xylenes	µg/L	2			200	200	-	600 (20)	<2	-	-	3	4
Sum of BTEX	µg/L	1							29	-	-	10	12
Naphthalene	µg/L	5			16				<5	-	-	48	58

Shaded results exceeds adopted site criteria, or most sensitive adopted site criteria if multiple criteria exceeded
LOR = Limit of Reporting
<value = Less than the laboratory Limit of Reporting (LOR)
BTEX = benzene, toluene, ethylbenzene, xylene. MAH = monocyclic aromatic hydrocarbons. TPH / TRH = total petroleum / recoverable hydrocarbons. PAH = Polycyclic Aromatic Hydrocarbons.
Blank cell indicates no criterion available

			Intralaboratory Duplicate			Intralaboratory Duplicate			Intralaboratory Duplicate			Interlaboratory Duplicate	
			MW202-13.5	QA101	RPD %	MW203_2.5	QA100	RPD %	MW204_2.5	QA101	RPD %	QA201	RPD %
		LOR	5/11/2015			2/12/2015			2/12/2016				
Moisture Content (dried @ 103°C)	%	1	12	13.3	10.3	29.2	21.6	29.9	16.8	21.8	25.9	19	12.3
pH Value	pH Unit	0.1	9.9	9.8	1.0	9.7	9.4	3.1	6.3	6.4	1.6	6.3	0.0
Electrical Conductivity @ 25°C	µS/cm	1	3850	4630	18.4	-	-	-	-	-	-	7900	-
Total Alkalinity as CaCO3	mg/kg	1	5120	5840	13.1	-	-	-	-	-	-	-	-
Bicarbonate Alkalinity as CaCO3	mg/kg	1	2760	2950	6.8	-	-	-	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/kg	1	2360	2890	20.2	-	-	-	-	-	-	-	-
Sulfate as SO4 2-	mg/kg	10	1920	2180	12.7	-	-	-	-	-	-	-	-
Chloride	mg/kg	10	290	530	**58.5**	-	-	-	-	-	-	-	-
Sodium	mg/kg	10	3760	4650	12.2	5960	3260	**58.6**	8040	6770	17.2	40000	**133.1**
Potassium	mg/kg	10	60	40	**40.0**	-	-	-	-	-	-	-	-
Heavy Metals													
Aluminium	mg/kg	50	12300	16800	**30.9**	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1	<0.1	<0.1	0.0	-	-	-	-	-	-	-	-
Cyanide													
Total Cyanide	mg/kg	1	44	51	14.7	158	142	10.7	20	23	14.0	<5	**120.0**
Total Cyanide (ZHE Leachate)	mg/L	0.004				1.48	1.93	26.4	<0.004	<0.004	0.0	-	-
Fluoride													
Fluoride (total)	mg/kg	40	2140	3740	**54.4**	-	-	-	-	-	-	-	-
Fluoride (soluable)	mg/kg					3560	2610	**30.8**	184	192	4.3	110	**50.3**
Fluoride (TCLP Leachate)	mg/L					267	274	2.6	217	267	20.7	-	-
Total Polychlorinated biphenyls													
Total Polychlorinated biphenyls	mg/kg	0.1	<0.1	<0.1	0.0	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons													
Naphthalene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	<0.5	-	-	-	-
Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	<0.5	-	-	-	-
Acenaphthene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	<0.5	-	-	-	-
Fluorene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	<0.5	-	-	-	-
Phenanthrene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	8.3	-	-	-	-
Anthracene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	1	-	-	-	-
Fluoranthene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	47	-	-	-	-
Pyrene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	22.9	-	-	-	-
Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	19.5	-	-	-	-
Chrysene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	52.5	-	-	-	-
Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	55	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-		-	-	-	-
Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	5.1	-	-	-	-
Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	5.6	-	-	-	-
Dibenz(a.h)anthracene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	2.6	-	-	-	-
Benzo(g.h.i)perylene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	5.4	-	-	-	-
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	225	-	-	-	-
Benzo(a)pyrene TEQ (zero)	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	16.3	-	-	-	-
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0.6	0.0	-	-	-	16.3	-	-	-	-
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	0.0	-	-	-	16.3	-	-	-	-
Polycyclic Aromatic Hydrocarbons - TCLP Leachate													
Naphthalene	µg/L	1	-	-	-	32.8	19.1	**52.8**	1.2	<1	18.2	-	-
Acenaphthylene	µg/L	1	-	-	-	1.1	<1	9.5	<1.0	<1.0	0.0	-	-
Acenaphthene	µg/L	1	-	-	-	157	66	**81.6**	<1.0	<1.0	0.0	-	-
Fluorene	µg/L	1	-	-	-	27.7	11.6	**81.9**	<1.0	<1.0	0.0	-	-
Phenanthrene	µg/L	1	-	-	-	28.8	10.7	**91.6**	3.5	<1	**111.1**	-	-
Anthracene	µg/L	1	-	-	-	12.8	4.6	**94.3**	<1.0	<1.0	0.0	-	-
Fluoranthene	µg/L	1	-	-	-	14.4	5.7	**86.6**	7.9	1.7	**129.2**	-	-
Pyrene	µg/L	1	-	-	-	9.9	3.6	**93.3**	3.7	<1.0	**114.9**	-	-
Benz(a)anthracene	µg/L	1	-	-	-	<1.0	<1.0	-	<1.0	<1.0	0.0	-	-
Chrysene	µg/L	1	-	-	-	<1.0	<1.0	-	<1.0	<1.0	0.0	-	-
Benzo(b+j)fluoranthene	µg/L	1	-	-	-	<1.0	<1.0	-	<1.0	<1.0	0.0	-	-
Benzo(k)fluoranthene	µg/L	1	-	-	-	<1.0	<1.0	-	<1.0	<1.0	0.0	-	-
Benzo(a)pyrene	µg/L	0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5	0.0	-	-
Indeno(1.2.3.cd)pyrene	µg/L	1	-	-	-	<1.0	<1.0	-	<1.0	<1.0	0.0	-	-
Dibenz(a.h)anthracene	µg/L	1	-	-	-	<1.0	<1.0	-	<1.0	<1.0	0.0	-	-
Benzo(g.h.i)perylene	µg/L	1	-	-	-	<1.0	<1.0	-	<1.0	<1.0	0.0	-	-
Sum of polycyclic aromatic hydrocarbons	µg/L	0.5	-	-	-	284	121	**80.5**	16.3	1.7	**162.2**	-	-
Benzo(a)pyrene TEQ (zero)	µg/L	0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5	0.0	-	-
Total Petroleum Hydrocarbons													
C6 - C9 Fraction	mg/kg	10	<10	<10	0.0	-	-	-	-	-	-	-	-
C10 - C14 Fraction	mg/kg	50	<50	<50	0.0	-	-	-	-	-	-	-	-
C15 - C28 Fraction	mg/kg	100	<100	<100	0.0	-	-	-	-	-	-	-	-
C29 - C36 Fraction	mg/kg	100	<100	<100	0.0	-	-	-	-	-	-	-	-
C10 - C36 Fraction (sum)	mg/kg	50	<50	<50	0.0	-	-	-	-	-	-	-	-
Total Recoverable Hydrocarbons													
C6 - C10 Fraction	mg/kg	10	<10	<10	0.0	-	-	-	-	-	-	-	-
C6 - C10 Fraction minus BTEX (F1)	mg/kg	10	<10	<10	0.0	-	-	-	-	-	-	-	-
>C10 - C16 Fraction	mg/kg	50	<50	<50	0.0	-	-	-	-	-	-	-	-
>C16 - C34 Fraction	mg/kg	100	<100	<100	0.0	-	-	-	-	-	-	-	-
>C34 - C40 Fraction	mg/kg	100	<100	<100	0.0	-	-	-	-	-	-	-	-
>C10 - C40 Fraction (sum)	mg/kg	50	<50	<50	0.0	-	-	-	-	-	-	-	-
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	50	<50	<50	0.0	-	-	-	-	-	-	-	-
BTEXN													
Benzene	mg/kg	0.2	<0.2	<0.2	0.0	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	-	-	-	-	-
meta- & para-Xylene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	-	-	-	-	-
ortho-Xylene	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	-	-	-	-	-
Total Xylenes	mg/kg	0.5	<0.5	<0.5	0.0	-	-	-	-	-	-	-	-
Sum of BTEX	mg/kg	0.2	<0.2	<0.2	0.0	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	1	<1	<1	0.0	-	-	-	-	-	-	-	-

<value = Less than the laboratory Limit of Reporting (LOR)
ND = Not Detected
LOR = Limit of Reporting
Bold results indicate exceedance of relative percentage difference standards

Table 4 - Groundwater Quality Assurance

			Intralaboratory Duplicate			Rinsate Blank
Sample ID:			**MW206_20151111**	**QA101**	**RPD**	**QA201**
Date:		LOR	11/11/2015	11/11/2015	%	11/11/2015
Alkalinity						
Hydroxide Alkalinity as CaCO3	mg/L	1	<1	<1	0.0	<1
Carbonate Alkalinity as CaCO3	mg/L	1	24700	26200	5.9	<1
Bicarbonate Alkalinity as CaCO3	mg/L	1	242	727	**100.1**	<1
Total Alkalinity as CaCO3	mg/L	1	25000	26900	7.3	<1
Sulfate						
Sulfate as SO4 - Turbidimetric	mg/L	1	9000	9460	5.0	<1
Chloride						
Chloride	mg/L	1	522	553	5.8	<1
Sodium						
Sodium	mg/L	1	16700	17400	4.1	<1
Potassium						
Potassium	mg/L	1	68	73	7.1	<1
Heavy Metals						
Aluminium	µg/L	10	2410	2860	17.1	**40**
Mercury	µg/L	0.1	<0.1	<0.1	0.0	<0.0001
Cyanide						
Total Cyanide	mg/L	0.004	223	207	7.4	<0.004
Fluoride						
Fluoride	mg/L	0.1	1640	1720	4.8	<0.1
Polychlorinated biphenyls						
Total Polychlorinated biphenyls	µg/L	1	<1	<1	0.0	<1
Polycyclic Aromatic Hydrocarbons						
Naphthalene	µg/L	1	30.2	38.8	24.9	<1.0
Acenaphthylene	µg/L	1	<1.0	<1.0	0.0	<1.0
Acenaphthene	µg/L	1	3.5	3.5	0.0	<1.0
Fluorene	µg/L	1	2.1	1.8	15.4	<1.0
Phenanthrene	µg/L	1	6	4.3	**33.0**	<1.0
Anthracene	µg/L	1	2.7	2.2	20.4	<1.0
Fluoranthene	µg/L	1	8.8	5.3	**49.6**	<1.0
Pyrene	µg/L	1	8.7	5.2	**50.4**	<1.0
Benz(a)anthracene	µg/L	1	9.2	4.4	**70.6**	<1.0
Chrysene	µg/L	1	8.4	3.9	**73.2**	<1.0
Benzo(b+j)fluoranthene	µg/L	1	12.3	5.4	**78.0**	<1.0
Benzo(k)fluoranthene	µg/L	1	3.9	2	**64.4**	<1.0
Benzo(a)pyrene	µg/L	0.5	9.6	4.1	**80.3**	<0.5
Indeno(1.2.3.cd)pyrene	µg/L	1	7	2.8	**85.7**	<1.0
Dibenz(a.h)anthracene	µg/L	1	1.7	<1	**51.9**	<1.0
Benzo(g.h.i)perylene	µg/L	1	8.2	3.2	**87.7**	<1.0
Sum of polycyclic aromatic hydrocarbons	µg/L	0.5	122	86.9	**33.6**	<0.5
Benzo(a)pyrene TEQ (zero)	µg/L	0.5	14.7	5.6	**89.7**	<0.5
Total Petroleum Hydrocarbons						
C6 - C9 Fraction	µg/L	20	330	310	6.3	<20
C10 - C14 Fraction	µg/L	50	200	200	0.0	<50
C15 - C28 Fraction	µg/L	100	540	530	1.9	<100
C29 - C36 Fraction	µg/L	50	100	90	10.5	<50
C10 - C36 Fraction (sum)	µg/L	50	840	820	2.4	<50
C6-C36 Fraction (sum)	µg/L	220	2010	1950	3.0	<70
Total Recoverable Hydrocarbons						
C6 - C10 Fraction	µg/L	20	330	310	6.3	<20
C6 - C10 Fraction minus BTEX (F1)	µg/L	20	320	300	6.5	<20
>C10 - C16 Fraction	µg/L	100	330	310	6.3	<100
>C16 - C34 Fraction	µg/L	100	540	460	16.0	<100
>C34 - C40 Fraction	µg/L	100	<100	<100	0.0	<100
>C10 - C40 Fraction (sum)	µg/L	100	870	770	12.2	<100
>C10 - C16 Fraction minus Naphthalene (F2)	µg/L	100	280	250	11.3	<100
BTEXN						
Benzene	µg/L	1	3	3	0.0	<1
Toluene	µg/L	2	4	5	22.2	<2
Ethylbenzene	µg/L	2	<2	<2	0.0	<2
meta- & para-Xylene	µg/L	2	3	4	28.6	<2
ortho-Xylene	µg/L	2	<2	<2	0.0	<2
Total Xylenes	µg/L	2	3	4	28.6	<2
Sum of BTEX	µg/L	1	10	12	18.2	<1
Naphthalene	µg/L	5	48	58	18.9	<5

<value = Less than the laboratory Limit of Reporting (LOR)

ND = Not Detected

LOR = Limit of Reporting

Bold results indicate exceedance of relative percentage difference standards

			Maximum values of specific contaminant concentration (SCC) for classification without TCLP (CT1 and CT2)		Maximum values for *leachable concentration* and *specific contaminant concentration* when used together (Restricted Solid Waste)		Chemical Control Order	MW201_3.0	MW201_6.0	MW201_9.0	MW201_11.5	MW201_14	MW202_2.0	MW202_6.5	MW202_9.8	MW202-12	MW202-13.5*	QA101	MW203_2.5	QA100	MW203_7.0	MW203_9.0	MW203_12.5	MW203_14.5	MW204_2.5	QA101	QA201	MW204_4	MW204_6.0	MW204_9.0	MW204_12.2	MW204_14.0	MW205_5.5	MW205_9.0	MW205_11.3	MW205_12.2	MW205_14.5	MW206_3.0	MW206_7.0	MW206_11.0	MW206_12	MW206_13	MW206_13.5	MW206_14	MW206_15.0
Date		LOR	General Solid Waste	Restricted Solid Waste	Leachable (TCLP2)	Specific Contaminant Concentration (SCC2)		2/12/2015	2/12/2015	2/12/2015	27/10/2015	28/10/2015	2/12/2015	2/12/2015	2/12/2015	5/11/2015	5/11/2015		2/12/2015		2/12/2015	2/12/2015	29/10/2015	29/10/2015	2/12/2015	2/12/2015	2/12/2015	6/11/2015	2/12/2015	2/12/2015	6/11/2015	6/11/2015	2/12/2015	2/12/2015	2/12/2015	30/10/2015	30/10/2015	2/12/2015	2/12/2015	2/12/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015	3/11/2015
Moisture Content (dried @ 103°C)	%	1						14.3	10.3	17.1	20.1	16.5	9	20	31	20.3	12	13.3	29.2	21.6	13.8	13.6	16.9	18.7	16.8	21.8	19	-	15.6	13.8	20	11	11.1	8.6	11.4	13.4	11.6	21.5	16.6	20.9	23.1	-	-	-	20
pH Value	pH Unit	0.1						9.1	9.6	9.9	9.7	10.1	11.4	10.2	10.1	10.5	9.9	9.8	9.7	9.4	9.8	11.4	10.5	10	6.3	6.4	6.3	-	10.7	11.3	10.2	9.6	8.3	10.7	9.4	10.3	9.2	10.4	9.6	9.8	9.9	-	-	-	10.5
Electrical Conductivity @ 25°C	uS/cm	1									1750	3230				3400	3850	4630					2210	1080			7900	-	-	-	5250	547				3490	100	-	4840	-	-	-	4030
Asbestos	presence	Y/N						No	Yes	Yes + Trace	-	-	No	Yes	Yes	-	-	-	No	No	Yes	Yes	-	-	No	No	-	No	No	No	-	-	No	No	No	-	-	No	No	No	-	-	-	-
Asbestos	Type							-	Am	Am	-	-	-	Am	Am	-	-	-	-	-	Ch + Am	Am	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exchangeable Cations on Alkaline Soils																																											
Exchangeable Calcium	meq/100g	0.2						<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2	0.4	-	-	<0.2	22.8	-	-	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	-
Exchangeable Magnesium	meq/100g	0.2						<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	0.2	-	-	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	-
Exchangeable Potassium	meq/100g	0.2						0.6	0.3	0.6	-	-	<0.2	0.4	1	-	-	-	1	1.2	0.6	0.9	-	-	<0.2	0.1	-	-	0.6	0.6	-	-	<0.2	<0.2	0.5	-	-	1.6	1	1.9	-	-	-	-
Exchangeable Sodium	meq/100g	0.2						30.1	25.5	39.3	-	-	53.4	49.8	29.2	-	-	-	32.2	34.4	54.3	78.3	-	-	16.5	17.5	-	-	63.2	76.4	-	-	4.6	17.5	23	-	-	68.8	38.5	53.4	-	-	-	-
Cation Exchange Capacity	meq/100g	0.2						30.8	26	40	-	-	-	50.2	30.4	-	-	-	33.3	36.1	55.2	79.7	-	-	18.6	42.8	70	-	63.9	77.5	-	-	5	17.9	23.5	-	-	70.7	39.6	55.8	-	-	-	-
Exchangeable Calcium Percent	%	0.2						<0.2	<0.2	<0.2	-	-	0.5	<0.2	0.8	-	-	-	<0.2	1.4	0.4	0.6	-	-	10.7	-	-	-	<0.2	0.3	-	-	5	1.4	<0.2	-	-	0.4	<0.2	0.4	-	-	-	-
Exchangeable Magnesium Percent	%	0.2						<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	-
Exchangeable Potassium Percent	%	0.2						2.1	1.5	1.6	-	-	0.2	0.8	3.3	-	-	-	3.1	3.2	1.2	1.1	-	-	0.7	-	-	-	1	0.8	-	-	2.6	0.7	2.2	-	-	2.4	2.6	3.4	-	-	-	-
Exchangeable Sodium Percent	%	0.2						97.9	98.5	98.4	-	-	99.3	99.2	95.8	-	-	-	96.9	95.4	98.4	98.2	-	-	88.6	-	-	-	99	98.8	-	-	92.3	97.9	97.8	-	-	97.3	97.4	96.1	-	-	-	-
Magnesium/Potassium Ratio		0.2						<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-	-	-	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	-	-	-	-
Alkalinity																																											
Total Alkalinity as CaCO3	mg/kg	1						-	-	-	788	2100	-	-	-	5580	5120	5840	-	-	-	-	1320	341	-	-	-	-	-	-	853	7420	-	-	-	1100	39	-	-	-	3280	-	-	-	1340
Bicarbonate Alkalinity as CaCO3	mg/kg	1						-	-	-	394	1100	-	-	-	<5	2760	2950	-	-	-	-	726	131	-	-	-	-	-	-	591	5320	-	-	-	420	39	-	-	-	2230	-	-	-	499
Carbonate Alkalinity as CaCO3	mg/kg	1						-	-	-	394	998	-	-	-	5510	2360	2890	-	-	-	-	594	210	-	-	-	-	-	-	262	2100	-	-	-	682	<5	-	-	-	1050	-	-	-	840
Sulfate																																											
Sulfate as SO4 2-	mg/kg	10						-	-	-	380	950	-	-	-	2210	1920	2180	-	-	-	-	2140	460	-	-	-	-	-	-	1250	200	-	-	-	1890	100	-	2480	-	-	-	2400
Chloride																																											
Chloride	mg/kg	10						-	-	-	550	<100	-	-	-	210	290	530	-	-	-	-	660	780	-	-	-	-	-	-	1180	710	-	-	-	130	40	-	-	-	150	-	-	-	130
Sodium																																											
Sodium	mg/kg	10						3300	3810	7240	2990	5630	14500	14800	2990	3750	3760	4650	5960	3260	4660	16400	3450	1860	8040	6770	40000	-	16400	18000	6940	970	1510	7250	3870	3880	170	12200	2960	5450	6730	-	-	-	5170
Potassium																																											
Potassium	mg/kg	10						-	-	-	1310	1600	-	-	-	40	60	40	-	-	-	-	770	760	-	-	-	-	-	-	1210	780	-	-	-	20	100	-	-	-	60	-	-	-	40
Heavy Metals																																											
Aluminium	mg/kg	50						-	-	-	10400	16100	-	-	-	7050	12300	16800	-	-	-	-	15100	4460	-	-	-	-	-	-	14800	5080	-	-	-	3330	4530	-	-	-	103000	-	-	-	8890
Mercury	mg/kg	0.1	4	16				-	-	-	<0.1	<0.1	-	-	-	<0.1	<0.1	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	<0.1	-	-	-	<0.1	<0.1	-	-	-	0.1	-	-	-	<0.1
Cyanide																																											
Total Cyanide	mg/kg	1	320	1,280		23,600		14	86	78	734	53	33	50	49	26	44	51	158	142	35	70	532	4	20	23	<5	-	72	45	114	<1	77	56	71	58	<1	-	-	-	100	-	-	-	60
Total Cyanide (ZHE Leachate)	mg/L	0.004			64		10	0.624	4.12	4.67			0.388	3.31	2.71				1.48	1.93	1.97	8.54			<0.004	<0.004			6.07	5.16			1.19	3.49	0.198			7.08	8.01	0.87				
Fluoride																																											
Fluoride (total)	mg/kg	40						-	-	-	490	1170	-	-	-	2880	2140	3740	-	-	-	-	1700	90	-	-	-	-	-	-	2290	110	-	-	-	830	200	-	-	-	69000	-	-	-	1510
Fluoride (soluble)	mg/kg	1	3,000	12,000		40,000		2440	2220	3,030			21,100	3,220	1500	-	-	-	3,560	2610	3,120	21,000	-	-	184	192	110	-	10,500	18,400	-	-	1240	12,700	1740	-	-	5,470	2390	2410	2700	-	-	-	-
Fluoride (TCLP Leachate)	mg/L	0.1			600		150	311	307	228			68.9	159	78.2				267	274	909	608			217	267			795	762			271	144	292			496	747	154				
Polychlorinated Biphenyls																																											
Total Polychlorinated Biphenyls	mg/kg	0.1	<50	<50				-	-	-	<0.1	<0.1	-	-	-	<0.1	<0.1	<0.1	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	0.1	<0.1	-	-	-	<0.1	<0.1	-	-	-	<0.1	-	-	-	<0.1
Polycyclic Aromatic Hydrocarbons																																											
Naphthalene	mg/kg	0.5						<3.0	-	-	<0.5	<0.5	-	1	-	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	-	-	3.8	<0.5	<0.5	-	-	8.1	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5						<3.0	-	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	-	-	<3.0	<0.5	<0.5	-	-	<3.0	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5						15.3	-	-	<0.5	<0.5	-	2.2	-	0.6	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	0.8	<0.5	-	-	27	<0.5	<0.5	-	-	41.7	3.4	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5						7.1	-	-	<0.5	<0.5	-	1	-	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	0.8	<0.5	-	-	9.9	<0.5	<0.5	-	-	25.5	1.8	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5						57.9	-	-	<0.5	<0.5	-	9.9	-	4.3	<0.5	<0.5	-	-	-	<0.5	2.6	<0.5	8.3	<0.5	-	-	-	-	-	4.2	<0.5	-	-	186	<0.5	<0.5	-	-	212	13.4	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5						12.3	-	-	<0.5	<0.5	-	2.2	-	0.9	<0.5	<0.5	-	-	-	<0.5	0.5	<0.5	1	<0.5	-	-	-	-	-	0.8	<0.5	-	-	44.8	<0.5	<0.5	-	-	105	3.2	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5						148	-	-	<0.5	0.6	-	27.3	-	10.2	<0.5	<0.5	-	-	-	0.5	6.6	<0.5	47	<0.5	-	-	-	-	-	8.4	<0.5	-	-	739	1.6	<0.5	-	-	508	42.2	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5						126	-	-	<0.5	0.6	-	24.1	-	10.4	<0.5	<0.5	-	-	-	<0.5	6.4	<0.5	22.9	-	-	-	-	-	-	8.5	<0.5	-	-	706	1.6	<0.5	-	-	449	45.3	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5						132	-	-	<0.5	<0.5	-	21.7	-	4.9	<0.5	<0.5	-	-	-	<0.5	2.8	<0.5	19.5	-	-	-	-	-	-	3.9	<0.5	-	-	731	1.3	<0.5	-	-	550	48.2	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5						116	-	-	<0.5	0.6	-	19.9	-	4.8	<0.5	<0.5	-	-	-	<0.5	2.8	<0.5	52.5	-	-	-	-	-	-	4	<0.5	-	-	626	1.4	<0.5	-	-	448	49.3	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	mg/kg	0.5						238	-	-	<0.5	0.5	-	42	-	7.4	<0.5	<0.5	-	-	-	<1	3.3	<0.5	55	-	-	-	-	-	-	5.6	<0.5	-	-	1330	2	<0.5	-	-	990	86	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	mg/kg	0.5							-	-	<0.5	<0.5	-	-	-	2.7	<0.5	<0.5	-	-	-	-	0.9	<0.5	-	-	-	-	-	-	1.9	<0.5	-	-	-	0.8	<0.5	-	-	-	22.8	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	mg/kg	0.5	0.8	3.2				124	-	-	<0.5	<0.5	-	22.9	-	6.4	<0.5	<0.5	-	-	-	<0.5	2.8	<0.5	5.1	-	-	-	-	-	-	4.9	<0.5	-	-	832	1.8	<0.5	-	-	536	60	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3,cd)pyrene	mg/kg	0.5						56.3	-	-	<0.5	<0.5	-	9	-	3.4	<0.5	<0.5	-	-	-	<0.5	1.7	<0.5	5.6	-	-	-	-	-	-	2.7	<0.5	-	-	442	0.9	<0.5	-	-	270	39.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5						17	-	-	<0.5	<0.5	-	3.4	-	0.7	<0.5	<0.5	-	-	-	<0.5	0.5	<0.5	2.6	-	-	-	-	-	-	0.5	<0.5	-	-	116	<0.5	<0.5	-	-	78.1	12.6	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5						59.5	-	-	<0.5	<0.5	-	9.4	-	4.8	<0.5	<0.5	-	-	-	<0.5	1.9	<0.5	5.4	-	-	-	-	-	-	3.9	<0.5	-	-	528	1.1	<0.5	-	-	284	47.2	<0.5	<0.5	<0.5	<0.5
Sum of polycyclic aromatic hydrocar	mg/kg	0.5	200	800				1110	-	-	<0.5	2.3	-	196	-	61.5	<0.5	<0.5	-	-	-	0.5	32.3	<0.5	225	-	-	-	-	-	-	50.1	<0.5	-	-	6,320	12.5	<0.5	-	-	4,500	475	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (zero)	mg/kg	0.5						185	-	-	<0.5	<0.5	-	33.9	-	9	<0.5	<0.5	-	-	-	<0.5	3.7	<0.5	16.3	-	-	-	-	-	-	6.9	<0.5	-	-	1210	2.3	<0.5	-	-	802	93.2	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5						185	-	-	0.6	0.6	-	33.9	-	9	0.6	0.6	-	-	-	0.6	4	0.6	16.3	-	-	-	-	-	-	6.9	0.6	-	-	1210	2.6	0.6	-	-	802	93.2	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5						185	-	-	1.2	1.2	-	33.9	-	9	1.2	1.2	-	-	-	1.2	4.2	1.2	16.3	-	-	-	-	-	-	6.9	1.2	-	-	1210	2.8	1.2	-	-	802	93.2	1.2	1.2	1.2	1.2
Polycyclic Aromatic Hydrocarbons - TCLP Leachate																																											
Naphthalene	µg/L	1						5.8	2	<1.0	-	-	318	1.6	14.6	-	-	-	32.8	19.1	<1.0	<1.0	-	-	1.2	<1.0	-	-	11.4	3.3	-	-	<1.0	21.2	5.5	-	-	1.2	2.5	3.5	-	-	-	-	-	-	-
Acenaphthylene	µg/L	1						<1.0	<1.0	<1.0	-	-	<1.0	<1.0	1.2	-	-	-	1.1	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-	-	-
Acenaphthene	µg/L	1						15	<1.0	<1.0	-	-	10.3	2.7	216	-	-	-	157	66	<1.0	<1.0	-	-	<1.0	<1.0	-	-	10.9	10.6	-	-	3.4	7.6	11	-	-	<1.0	2.7	10.3	-	-	-	-	-	-	-
Fluorene	µg/L	1						4.7	<1.0	<1.0	-	-	<1.0	<1.0	90.6	-	-	-	27.7	11.6	<1.0	<1.0	-	-	<1.0	<1.0	-	-	2.5	1.1	-	-	1.4	3.6	4.6	-	-	<1.0	<1.0	10.2	-	-	-	-	-	-	-
Phenanthrene	µg/L	1						11.3	<1.0	5.6	-	-	<1.0	1.6	137	-	-	-	28.8	10.7	<1.0	<1.0	-	-	3.5	<1.0	-	-	12.4	10.6	-	-	6.6	19.3	12.8	-	-	2.3	3	13.1	-	-	-	-	-	-	-
Anthracene	µg/L	1						2.3	<1.0	<1.0	-	-	<1.0	<1.0	17.1	-	-	-	12.8	4.6	<1.0	<1.0	-	-	<1.0	<1.0	-	-	1.8	<1.0	-	-	1.3	3.1	2.9	-	-	<1.0	<1.0	11.8	-	-	-	-	-	-	-
Fluoranthene	µg/L	1						5.4	<1.0	5.1	-	-	<1.0	1.8	21.9	-	-	-	14.4	5.7	<1.0	<1.0	-	-	7.9	1.7	-	-	3.6	2.7	-	-	4.6	6.8	9.3	-	-	1.8	1.2	6.3	-	-	-	-	-	-	-
Pyrene	µg/L	1						4.2	<1.0	3.8	-	-	<1.0	1.5	17.6	-	-	-	9.9	3.6	<1.0	<1.0	-	-	3.7	<1.0	-	-	3	2.1	-	-	4	5.6	8	-	-	1.2	1	5.3	-	-	-	-	-	-	-
Benz(a)anthracene	µg/L	1						<1.0	<1.0	<1.0	-	-	<1.0	<1.0	2.7	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	1.4	-	-	<1.0	<1.0	<1.0	-	-	-	-	-	-	-
Chrysene	µg/L	1						<1.0	<1.0	<1.0	-	-	<1.0	<1.0	1.8	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	1.1	-	-	<1.0	<1.0	<1.0	-	-	-	-	-	-	-
Benzo(b+j)fluoranthene	µg/L	1						<1.0	<1.0	<1.0	-	-	<1.0	<1.0	1.1	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	1						<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	0.5			160	23,000		<0.5	<0.5	<0.5	-	-	<0.5	<0.5	0.7	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Indeno(1,2,3,cd)pyrene	µg/L	1						<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	1						<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	1						<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	-	-	-	-	-	-	-
Sum of polycyclic aromatic hydrocar	µg/L	0.5						48.7	2	14.5	-	-	328	9.2	522	-	-	-	284	121	<0.5	<0.5	-	-	16.3	1.7	-	-	45.6	30.4	-	-	21.3	67.2	56.6	-	-	6.5	10.4	60.5	-	-	-	-	-	-	-
Benzo(a)pyrene TEQ (zero)	µg/L	0.5						<0.5	<0.5	<0.5	-	-	<0.5	<0.5	1.1	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																																											
C6 - C9 Fraction	mg/kg	10	650	2,600				-	-	-	<10	<10	-	-	-	<10	<10	<10	-	-	-	-	<10	<10	-	-	-	-	-	-	<10	<10	-	-	-	<10	<10	-	-	-	<10	-	-	-	<10
C10 - C14 Fraction	mg/kg	50						-	-	-	<50	<50	-	-	-	<50	<50	<50	-	-	-	-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	<50	-	-	-	<50
C15 - C28 Fraction	mg/kg	100						-	-	-	<100	<100	-	-	-	270	<100	<100	-	-	-	-	<100	<100	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-	-	1020	-	-	-	<100
C29 - C36 Fraction	mg/kg	100						-	-	-	<100	<100	-	-	-	240	<100	<100	-	-	-	-	<100	<100	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-	-	1860	-	-	-	<100
C10 - C36 Fraction (sum)	mg/kg	50	10,000	40,000				-	-	-	<50	<50	-	-	-	510	<50	<50	-	-	-	-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	2880	-	-	-	<50
Total Recoverable Hydrocarbons																																											
C6 - C10 Fraction	mg/kg	10						-	-	-	<10	<10	-	-	-	<10	<10	<10	-	-	-	-	<10	<10	-	-	-	-	-	-	<10	<10	-	-	-	<10	<10	-	-	-	<10	-	-	-	<10
C6 - C10 Fraction minus BTEX (F1)	mg/kg	10						-	-	-	<10	<10	-	-	-	<10	<10	<10	-	-	-	-	<10	<10	-	-	-	-	-	-	<10	<10	-	-	-	<10	<10	-	-	-	<10	-	-	-	<10
>C10 - C16 Fraction	mg/kg	50						-	-	-	<50	<50	-	-	-	<50	<50	<50	-	-	-	-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	<50	-	-	-	<50
>C16 - C34 Fraction	mg/kg	100						-	-	-	<100	<100	-	-	-	470	<100	<100	-	-	-	-	<100	<100	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-	-	2,340	-	-	-	<100
>C34 - C40 Fraction	mg/kg	100						-	-	-	<100	<100	-	-	-	<100	<100	<100	-	-	-	-	<100	<100	-	-	-	-	-	-	<100	<100	-	-	-	<100	<100	-	-	-	1120	-	-	-	<100
>C10 - C40 Fraction (sum)	mg/kg	50						-	-	-	<50	<50	-	-	-	470	<50	<50	-	-	-	-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	3460	-	-	-	<50
>C10 - C16 Fraction minus Naphthale	mg/kg	50						-	-	-	<50	<50	-	-	-	<50	<50	<50	-	-	-	-	<50	<50	-	-	-	-	-	-	<50	<50	-	-	-	<50	<50	-	-	-	<50	-	-	-	<50
BTEXN																																											
Benzene	mg/kg	0.2	10	40	2	72		-	-	-	<0.2	<0.2	-	-	-	<0.2	<0.2	<0.2	-	-	-	-	<0.2	<0.2	-	-	-	-	-	-	<0.2	<0.2	-	-	-	<0.2	<0.2	-	-	-	<0.2	-	-	-	<0.2
Toluene	mg/kg	0.5	288	1,152	58	2,073		-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	-	-	-	<0.5	-	-	-	<0.5
Ethylbenzene	mg/kg	0.5	600	2,400	120	4,320		-	-	-	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	-	-	-	<0.5

			Maximum values of specific contaminant concentration (SCC) for classification without TCLP (CT1 and CT2)		Maximum values for *leachable concentration* and *specific contaminant concentration* when used together (Restricted Solid Waste)		Chemical Control Order	MW201_3.0	MW201_6.0	MW201_9.0	MW201_11.5	MW201_14	MW202_2.0	MW202_6.5	MW202_9.8	MW202-12	MW202-13.5*	QA101	MW203_2.5	QA100	MW203_7.0	MW203_9.0	MW203_12.5	MW203_14.5	MW204_2.5	QA101	QA201	MW204_4	MW204_6.0	MW204_9.0	MW204_12.2	MW204_14.0	MW205_5.5	MW205_9.0	MW205_11.3	MW205_12.2	MW205_14.5	MW206_3.0	MW206_7.0	MW206_11.0	MW206_12	MW206_13	MW206_13.5	MW206_14	MW206_15.0
Halogenated Aliphatic Compounds																																											
Dichlorodifluoromethane	mg/kg	5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-
Chloromethane	mg/kg	5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-
Vinyl chloride	mg/kg	5	4	16	0.8	28.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-
Bromomethane	mg/kg	5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-
Chloroethane	mg/kg	5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-
Trichlorofluoromethane	mg/kg	5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-
1.1-Dichloroethene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Iodomethane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
trans-1.2-Dichloroethene	mg/kg	0.5	10	40				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.1-Dichloroethane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
cis-1.2-Dichloroethene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.1.1-Trichloroethane	mg/kg	0.5	600	2,400	120	4,320		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.1-Dichloropropylene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Carbon Tetrachloride	mg/kg	0.5	10	40	2	72		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.2-Dichloroethane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Trichloroethene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Dibromomethane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.1.2-Trichloroethane	mg/kg	0.5	24	96	4.8	172.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.3-Dichloropropane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Tetrachloroethene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.1.1.2-Tetrachloroethane	mg/kg	0.5	200	800	40	1,440		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
trans-1.4-Dichloro-2-butene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
cis-1.4-Dichloro-2-butene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.1.2.2-Tetrachloroethane	mg/kg	0.5	26	104	5.2	187.2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.2.3-Trichloropropane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Pentachloroethane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.2-Dibromo-3-chloropropane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Halogenated Aromatic Compounds																																											
Chlorobenzene	mg/kg	0.5	2,000	8,000	400	14,400		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Bromobenzene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
2-Chlorotoluene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
4-Chlorotoluene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
1.2.3-Trichlorobenzene	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Trihalomethanes																																											
Chloroform	mg/kg	0.5	120	480	24	864		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Bromodichloromethane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Dibromochloromethane	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Bromoform	mg/kg	0.5						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
Phenolic Compounds																																											
Phenol	mg/kg	0.5	288	1,152	57.6	2,073		<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2-Chlorophenol	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2-Methylphenol	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
3- & 4-Methylphenol	mg/kg	0.5						<6.0	-	-	-	-	-	<0.6	-	-	-	-	-	-	-	<0.6	-	-	<0.6	-	-	-	-	-	-	-	-	-	-	-	<6.0	-	-	-	-	-
2-Nitrophenol	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2.4-Dimethylphenol	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2.4-Dichlorophenol	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2.6-Dichlorophenol	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2.4.6-Trichlorophenol	mg/kg	0.5	40	160	8	288		<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2.4.5-Trichlorophenol	mg/kg	0.5	8,000	32,000	1,600	57,600		<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Pentachlorophenol	mg/kg	1						<6	-	-	-	-	-	<1	-	-	-	-	-	-	-	<1	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-
Phthalate Esters																																											
Dimethyl phthalate	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Diethyl phthalate	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Di-n-butyl phthalate	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
bis(2-ethylhexyl) phthalate	mg/kg	5						<5.0	-	-	-	-	-	<5.0	-	-	-	-	-	-	-	<5.0	-	-	<5.0	-	-	-	-	-	-	-	-	-	-	-	<5.0	-	-	-	-	-
Di-n-octylphthalate	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Nitrosamines																																											
N-Nitrosomethylethylamine	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
N-Nitrosodiethylamine	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
N-Nitrosopyrrolidine	mg/kg	1						<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
N-Nitrosomorpholine	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
N-Nitrosopiperidine	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
N-Nitrosodibutylamine	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
N-Nitrosodiphenyl & Diphenylamine	mg/kg	1						<6.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	<6.0	-	-	-	-	-
Methapyrilene	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Nitroaromatics and Ketones																																											
2-Picoline	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Acetophenone	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Nitrobenzene	mg/kg	0.5	40	160	8	288		<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Isophorone	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2.6-Dinitrotoluene	mg/kg	1						<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2.4-Dinitrotoluene	mg/kg	1	2.6	10.4	0.52	18.7		<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
1-Naphthylamine	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
4-Nitroquinoline-N-oxide	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
5-Nitro-o-toluidine	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Azobenzene	mg/kg	1						<3	-	-	-	-	-	<1	-	-	-	-	-	-	-	<1	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	-
1.3.5-Trinitrobenzene	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Phenacetin	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
4-Aminobiphenyl	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Pentachloronitrobenzene	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Pronamide	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Dimethylaminoazobenzene	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Chlorobenzilate	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Haloethers																																											
Bis(2-chloroethyl) ether	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Bis(2-chloroethoxy) methane	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Chlorinated Hydrocarbons																																											
1.3-Dichlorobenzene	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
1.4-Dichlorobenzene	mg/kg	0.5	150	600				<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
1.2-Dichlorobenzene	mg/kg	0.5	86	344				<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Hexachloroethane	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
1.2.4-Trichlorobenzene	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Hexachloropropylene	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	2.5						<3.0	-	-	-	-	-	<2.5	-	-	-	-	-	-	-	<2.5	-	-	<2.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Pentachlorobenzene	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Hexachlorobenzene (HCB)	mg/kg	1						<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Anilines and Benzidines																																											
Aniline	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
4-Chloroaniline	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
2-Nitroaniline	mg/kg	1						<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
3-Nitroaniline	mg/kg	1						<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Dibenzofuran	mg/kg	0.5						**7.3**	-	-	-	-	-	**1.1**	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	**7.5**	-	-	-	-	-
4-Nitroaniline	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Carbazole	mg/kg	0.5						**10.6**	-	-	-	-	-	**1.7**	-	-	-	-	-	-	-	<0.5	-	-	**1.1**	-	-	-	-	-	-	-	-	-	-	-	**46.7**	-	-	-	-	-
3.3`-Dichlorobenzidine	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	**50.5**	-	-	-	-	-
Organochlorine Pesticides																																											
alpha-BHC	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
beta-BHC	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
gamma-BHC	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
delta-BHC	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Heptachlor	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Aldrin	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Heptachlor epoxide	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
alpha-Endosulfan	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
4.4`-DDE	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Dieldrin	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Endrin	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
beta-Endosulfan	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
4.4`-DDD	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Endosulfan sulfate	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Endosulfan (alpha+beta+sulfate)	mg/kg	3	60	240	12	432		<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
4.4`-DDT	mg/kg	1						<3.0	-	-	-	-	-	<1.0	-	-	-	-	-	-	-	<1.0	-	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Sum of DDD + DDE + DDT	mg/kg	0.5						<2.4	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<2.4	-	-	-	-	-
Sum of Aldrin + Dieldrin	mg/kg	0.5						<2.4	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<2.4	-	-	-	-	-
Organophosphorus Pesticides																																											
Dichlorvos	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Dimethoate	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Diazinon	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Chlorpyrifos-methyl	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Malathion	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-
Fenthion	mg/kg	0.5						<3.0	-	-	-	-	-	<0.5	-	-	-	-	-	-	-

APPENDIX H
1996 AND 2016 STOCKPILE SURFACE SURVEYS

- DENOTES SPRINKLER STOP VALVE

CATHODE PILE
(TURFED AREA)

CONCRETE PANELS

BOX CULVERT

GRAVEL ACCESS ROAD

CONCRETE 'V' DRAIN

ROCK DRAIN

350 PVC SWP

CONCRETE SWPIT

CONCRETE TANK

S.P.L. BUILDING

VENT

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No.	DATE	LOC'N	DESCRIPTION	C'KD	BY
1	20/8/96	GEN	GRID REFERENCES ADDED		JCS

REVISIONS

DWG NOS | REFERENCE DRAWINGS | DWG NOS | REFERENCE DRAWINGS

NOTES

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SURVEYING ENGINEERING & PLANNING CONSULTANTS
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PROJECT NUMBER

		DATE
DESIGNED	0.	0. . . .
DRAWN	M. KARBOWIAK	14/08/96
CHECKED	0.	0. . . .
E.O.APP	0.	0. . . .
ENG.APP	0.	0. . . .
DESIGN RELEASED		
DESIGN SUPERVISOR		0. . . .
SCALE	1 : 250	

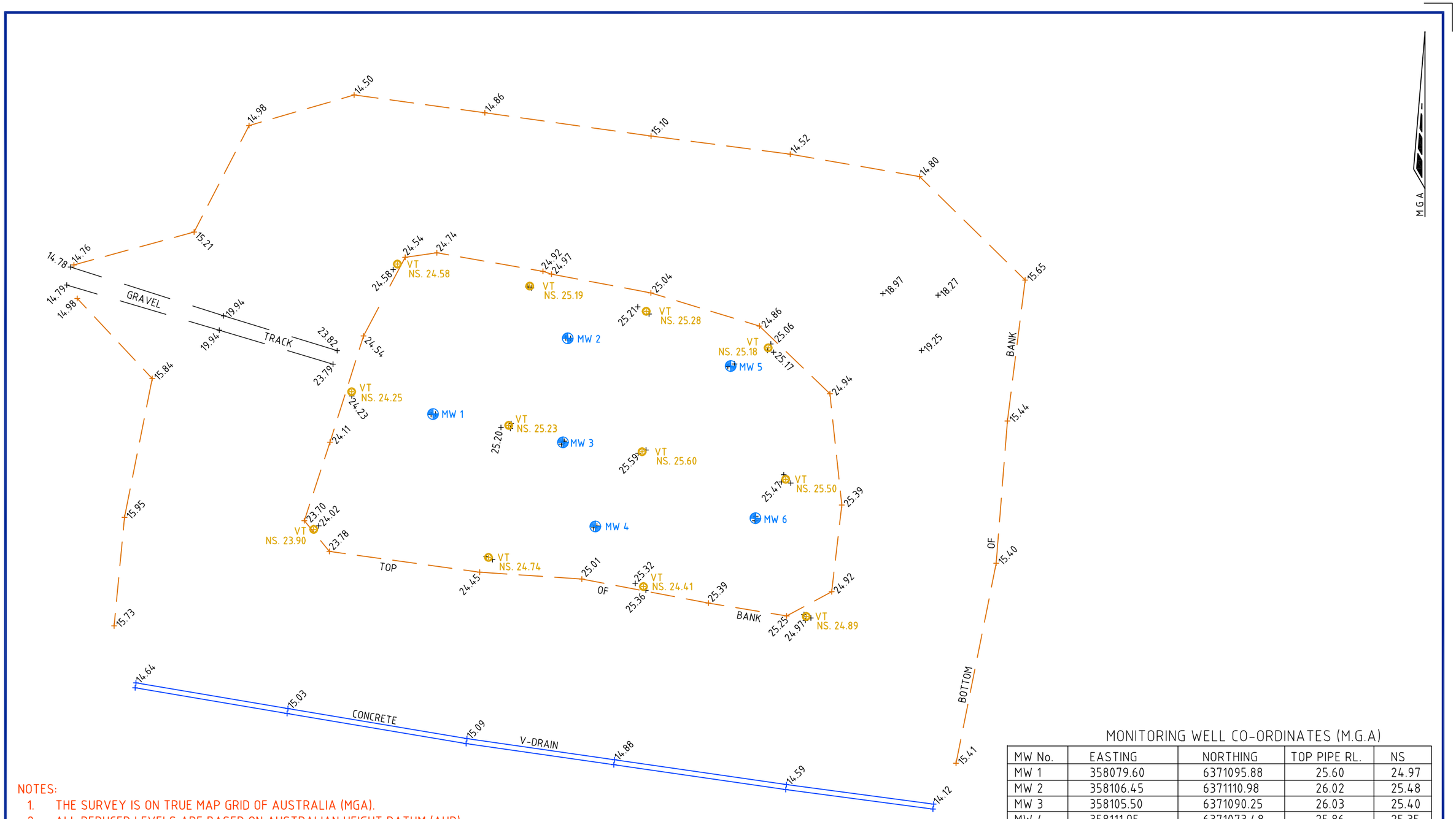
CAPRAL ALUMINIUM
KURRI KURRI WORKS
ACN 004 213 692

CATHODE PILE CAPPING SURVEY JANUARY 1996

DRAWING NO OA-30153 REVISION 1

ITEM No

OA-30153



NOTES:

1. THE SURVEY IS ON TRUE MAP GRID OF AUSTRALIA (MGA).
2. ALL REDUCED LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD).
3. ORIGIN OF LEVELS FROM P.M.37964 R.L.19.455.
4. ALL MONITORING WELLS REDUCED LEVELS HAVE BEEN TAKEN FROM THE TOP OF THE PVC PIPE.

DIAL BEFORE YOU DIG
www.1100.com.au

LEGEND

– – – – –	TOP & TOE OF BANKS
VT	VENT
MW	MONITORING WELL
NS	NATURAL SURFACE

MONITORING WELL CO-ORDINATES (M.G.A)

MW No.	EASTING	NORTHING	TOP PIPE RL.	NS
MW 1	358079.60	6371095.88	25.60	24.97
MW 2	358106.45	6371110.98	26.02	25.48
MW 3	358105.50	6371090.25	26.03	25.40
MW 4	358111.95	6371073.48	25.86	25.35
MW 5	358138.92	6371105.46	26.27	25.55
MW 6	358143.85	6371075.13	26.07	25.42

Bar Scale 1: 750 (A3)

0 10 20 30 40 50

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TITLE

PLAN SHOWING

LOCATION OF MONITORING WELLS AND LEVELS

Ed.	Date	Amendment
H		
G		
F		
E		
D		
C		
B		
A	22.02.2016	INITIAL ISSUE

JOB ADDRESS: HYDRO ELECTRICITY SMELTER, KURRI KURRI
CLIENT: RAMBOLL ENVIRON
PLAN No 001
JOB REF: 6455
SCALE: 1:750 (A3)
SURVEY DATE: 17.02.2016
PLAN DATE: 19.02.2016
DATUM: AHD
CAD REF: 6455-DE-160217.mjo
ORIGIN OF LEVELS P.M.37964 RL.19.455 (AHD)
DRAWN JG
SURVEYOR CM
CHECKED CM / WS
APPROVED WS
SHEET No 1/1
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APPENDIX 2
CHARACTERISATION OF THE CAPPED WASTE STOCKPILE

Part 2 Capped Waste Stockpile Treatability Study

Intended for
Gilbert & Tobin
Hydro Aluminium Kurri Kurri Pty Ltd

Document type
Report

Date
October, 2017

HYDRO ALUMINIUM KURRI KURRI PTY LTD CWS WASTE TREATABILITY STUDY



RAMBOLL ENVIRON

HYDRO ALUMINIUM KURRI KURRI PTY LTD
CWS WASTE TREATABILITY STUDY

Revision	**FINAL**
Date	**19/10/2017**
Made by	**Craig Goodbody**
Checked by	**Kirsty Greenfield**
Approved by	**Fiona Robinson**
Description	**Ramboll Environ were engaged by Gilbert & Tobin to assess the treatment options of Capped Waste Stockpile materials at Hydro Aluminium Kurri Kurri.**
Distribution	**Hydro Aluminium Kurri Kurri Pty Ltd (1 electronic copy)** **Gilbert & Tobin (1 electronic copy)**
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Laboratory Reports

EXECUTIVE SUMMARY

Studies were undertaken in the laboratory to assess the variability, and treatability of the material currently contained within the Capped Waste Stockpile (CWS waste). The CWS waste used in the studies was recovered during the drilling of six boreholes for the installation of groundwater monitoring wells on the capped waste stockpile in October 2015.

Variability was considered in terms of size by laboratory analyses of samples less than and greater than 125mm. Further assessment of variability was carried out by testing samples of greater than 125mm as monoliths using US EPA Method 1315. US EPA Method 1315 involves the extraction and analysis of eluate fluid in a series of nine predetermined leaching intervals, or time steps, T01 to T09.

Untreated samples were assessed under the NSW EPA (2014) Waste Classification Guidelines. Part 1: Classifying Waste, 2014 and the NSW EPA – Chemical Control Order in Relation to Aluminium Smelter Wastes Containing Fluoride and/or Cyanide. The untreated material was determined to be Hazardous Waste, due to the elevated concentrations of total PAHs. Concentrations of leachable fluoride are also in excess of the NSW EPA – Chemical Control Order. Due to the presence of asbestos, the untreated material was also classified as Asbestos Waste.

Treatment of crushed CWS waste was carried out by applying agricultural lime, calcium chloride (for chemical fixation) and Portland cement (for stabilisation and solidification) in dry and slurry form at different rates of application. The evaluation of the treatment options was carried out by laboratory analyses and assessment under the NSW EPA (2014) Waste Classification Guidelines and the NSW EPA – Chemical Control Order guidelines. For leachable concentrations, lime at 50% dosage for both wet and dry applications, cement at 30% both wet and dry. Lime at 10% added on a dry basis proved to be effective at reducing leachable fluoride levels to well below the Chemical Control Order guidelines of 150 mg/L. Calcium chloride proved to be ineffective at reducing concentrations of any of the contaminants.

It was observed that untreated monolith samples tested under US EPA Method 1315 demonstrated fluoride concentrations in exceedance of the Chemical Control Order. Eluate from treated monoliths formed with cement at 30% exceeded the Chemical Control Order guidelines for leachable fluoride in four out of five samples, however no exceedances were recorded for eluates at time intervals T07 to T09. Eluate samples from CWS waste treated with lime at 50% did not exceed the guidelines for any of the analytes.

The results of monolith testing, when compared to crushed samples, confirm that particle size influences the level of leachable fluoride. Crushed samples with high surface area resulted in higher leachable fluoride.

The generation of methane and ammonia gas was analysed during the preparation of samples for the treatment studies, by leaving crushed untreated and treated samples in an enclosed space for a period of 24 hours and analysing the gas in the headspace. Lime mixed with the waste material as a slurry at 50% dosage was found to produce the most methane, followed by cement at 30% dosage as a slurry. Significant amounts of ammonia gas was produced from combining the waste with both 50% lime and 30% cement, both dry and as a slurry, however, the production of ammonia was elevated when the admixtures were added as a slurry and the moisture content was higher.

CWS samples were also tested for OECD (Organisation for Economic Co-operation and Development) Dangerous Goods Class 4.3, substances which in contact with water emit flammable gases. The laboratory concluded that, under this methodology, the samples emitted no gas, including flammable gas, throughout the duration of the test for each sample.

1. INTRODUCTION

This report presents the findings of the Capped Waste Stockpile Treatability Study carried out on recovered samples from the Capped Waste Stockpile located at the former Hydro Kurri Kurri Aluminium Smelter.

The objective of the work was to test options for treatment of the Capped Waste Stockpile wastes (CWS waste) to reduce leachable total cyanide to less than 10mg/L and leachable fluoride to less than 150mg/L, when tested following ASLP (Australian Standard Leachate Procedure) for cyanide and TCLP (Toxicity Characteristic Leachate Procedure) method 1311 (USEPA, 1992) for fluoride.

The Capped Waste Stockpile (CWS) is known to contain, amongst other materials, spent pot lining. Leachable fluoride in spent pot lining occurs from cryolite (Na_3AlF_6) and sodium fluoride (NaF) that are used as a flux in the smelting process. Cyanides form when nitrogen reacts with sodium and carbon during the smelting process. Previous TCLP analysis of CWS waste found leachable fluorides on average of 337mg/L, and cyanides below 10mg/L (Ramboll Environ, 2016).

This report presents the methodology employed, and factual results of the materials assessment, treatability trials, and dangerous goods classification.

1.1 Background

1.1.1 The Capped Waste Stockpile

The Capped Waste Stockpile (formally known as the Alcan Mound) is an on-site stockpile comprising mixed smelter wastes that were capped in 1995. The stockpile originated during early site operations between 1969 and 1992, when smelter wastes were stored within onsite storage facilities situated along the eastern smelter boundary. Approximately 100,000 m^3 of mixed wastes including Spent Pot Lining was stored in this area. In the mid 1980's changes to legislation regarding the storage of aluminium smelter wastes resulted in the improvement of storage and waste management on the site. These improvements resulted in the consolidation of wastes into one stockpile and the capping of that stockpile, now referred to as the Capped Waste Stockpile. The capping of the Capped Waste Stockpile in 1995 was designed to reduce ongoing leachate generation.

Ramboll Environ undertook an intrusive (drilling) investigation in October/November 2015 at the Capped Waste Stockpile. The objective of the investigation was to provide an assessment on the composition of the waste material, the underlying soil, and the groundwater conditions beneath the Capped Waste Stockpile. A total of six boreholes were drilled and subsequently developed with groundwater monitoring wells. Waste, soil, and groundwater were collected and analysed in a laboratory for a wide range of contaminants of concern.

1.2 Objectives and Scope of Work

The scope of work comprised the following elements:

- Part 1 - Evaluation of the variability of leachate due to particle size from the CWS Waste samples.
- Part 2 – Assessment of Treatment Options for the CWS Waste by treatment by agricultural lime, $CaCl_2$ (for chemical fixation), and Portland cement (for stabilisation and solidification) by applying reagents in dry and slurry form to crushed waste at different concentrations. The treatment options assessment also included monolith testing of uncrushed forms of bonded waste and reagent mixes at different concentrations.
- Part 3 – OECD Testing for dangerous goods class 4.3 (substances which in contact with water emit flammable gases) of the CWS Waste. The CWS Waste contains spent pot lining which is considered to be dangerous goods, and the waste material has not been previously analysed for dangerous goods classification. CWS Waste materials had not previously been analysed under the dangerous goods code, however it was theorised that due to weathering the gas emissions were substantially reduced.

2. METHODOLOGY

2.1 Fieldwork

Sampling was carried out by Ramboll Environ personnel on 7 February 2017. Bulk samples of CWS wastes were collected from drill cores recovered during the advancement of six (6) boreholes within the Capped Waste Stockpile using a sonic drill rig. The drilling works were carried out between 26 October 2015 and 11 November 2015, with core samples housed undercover in storage sheds on site. The drill cores were sealed in polyethylene plastic sleeves prior to sampling. A total of 12 samples were collected manually into large bulk soil sampling bags. Six (6) general bulk samples were collected, one from each of the boreholes (MW201 to MW206), discounting cap material and natural material from the base of the boreholes. A further six (6) samples of larger fraction pieces (>125mm) that could be potentially be used for monolith testing were collected separately (one from each of the boreholes) to aid the sorting process in the lab. To gain a representative sample, material from the entire waste profile was collected from each of the boreholes.

Bagged samples were subsequently taken off site, palletised, and shipped to the laboratory under Chain of Custody protocol.

Additional samples were also collected from the CWS waste drill cores on 14 March, 25 May, and 23 August 2017, to supplement the initial samples, and allow for the evolution of the scope of testing and treatment studies.

In summary the size fractions collected for analysis and referred to in the following were:

- <125mm means bulk samples that were sieved to include only fractions less than 125mm;
- >125mm means bulk samples that were sieved to include fractions only greater than 125mm;
- Monoliths were hand selected from the drill core as 'large' fractions, typically greater than 125mm. These were retained whole (i.e. not crushed) throughout the analysis.

2.2 Part 1 Evaluation of Variability

The first part of the study was to assess the variability of the leachate generation within the waste itself. Variability was considered in terms of size in the laboratory by sieve analysis for Particle Size Distribution (PSD). Size fractions, of crushed bulk material, materials less than 125mm, and materials greater than 125mm, were then analysed.

The selected suite of analyses (presented in **Table 2.1**) was as follows:

- Particle Size Distribution (PSD) – by sieve analysis
- Asbestos by weight
- NSW Landfill Suite for waste characterisation (including Total Recoverable Hydrocarbons, Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene (BTEXN), Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides (OCP), Organophosphate Pesticides (OPP), Polychlorinated Biphenyls (PCB), heavy metals, Phenols, Cyanide, Fluoride)
- Leachable Cyanide (CN) by Australian Standard Leaching Procedure (ASLP)
- Leachable Fluoride (F) by Toxicity Characteristic Leaching Procedure (TCLP)
- Leachable Polycyclic Aromatic Hydrocarbons (PAH) by TCLP

Table 2.1 Summary of Variability Assessment Laboratory Analyses

Variability/Untreated Samples	Number of samples	PSD Analysis	Asbestos ID and wt/wt	Leachable CN by ASLP	Leachable F by TCLP	Leachable PAHs by TCLP	NSW Landfill Suite *
Bulk	12	6	12	12	12	12	12
>125mm	12	-	12	12	12	12	12
<125mm	12	-	12	12	12	12	12

*NSW Landfill Suite for waste characterisation (including TRH, BTEXN, PAHs, OCP, OPP, PCB, heavy metals, Phenols, CN, F)

Further analysis of variability due to size was completed using a monolith test, whereby, large pieces within the greater than 125mm sample were placed in a vessel at a known surface area to volume of liquid ratio. The sample was not crushed, the eluate liquid was changed periodically, and laboratory testing of the resulting eluate was completed for cyanide, fluoride and PAHs. This methodology followed the monolith leach procedure defined in USEPA 2013, *Validated Test Method 1315: Mass Transfer Rates of Constituents in Monolithic or Compacted Granular Materials Using a Semi-Dynamic Tank Leaching Procedure*.

Under this testing procedure, monolithic specimens of material of known surface area are suspended in tanks of leaching solution, allowing for a liquid to surface area ratio of 9 ml/cm^2. The leaching solution used in this study was laboratory grade (deionised) water. The specimens undergo continuous leaching, however the leaching solution is renewed periodically at predetermined intervals. The resulting eluates from each leaching interval are then tested for constituents of potential concern, in this case: fluoride, cyanide and polycyclic aromatic hydrocarbons. The eluate renewal schedule for the monolith leach procedure is summarised in **Table 2.2**.

Table 2.2 Schedule of Eluate Renewals (USEPA, 2013)

Interval Label	Interval Duration (Hours)	Interval Duration (Days)	Cumulative Leaching Time (Days)
T01	2.0 ± 0.25	-	0.1
T02	23.0 ± 0.5	-	1.0
T03	23.0 ± 0.5	-	2.0
T04	-	5.0 ± 0.1	7.0
T05	-	7.0 ± 0.1	14.0
T06	-	14.0 ± 0.1	28.0
T07	-	14.0 ± 0.1	42.0
T08	-	7.0 ± 0.1	49.0
T09	-	14.0 ± 0.1	63.0

2.3 Part 2 Assessment of Treatment Options

The second part involved two methods of treatment using three different treatment compounds. The treatment compounds considered were agricultural lime and $CaCl_2$ for chemical fixation and Portland cement for stabilisation and solidification.

Hydrated lime ($Ca(OH)_2$, calcium hydroxide), with an available lime index of 90% $Ca(OH)_2$, was used for the lime treatment studies. A pool water calcium hardness increaser, consisting of 99.6% calcium chloride, was used for the $CaCl_2$ treatment studies. Ordinary Portland cement, typically consisting of calcium oxide (CaO, lime), silicon dioxide (SiO_2), aluminium oxide (Al_2O_3), ferric oxide (Fe_2O_3) and sulphur oxide (SO_3) in varying concentrations, was used for the cement treatment studies.

Treatment study 1 involved the addition of dry treatment compounds using the moisture inherent in the CWS Waste. A bulk sample was made by homogenising subsamples from each of the recovered cores. A portion of the bulk sample was then taken and mixed with the dry treatment compound. Six (6) subsamples were then taken and analysed. Each sample was left for 24 hours in an enclosed space and the head space sampled for gas generation. Gases were analysed using a landfill gas analyser for methane, and using Kitigawa and Dräger detector tubes for ammonia.

Treatment study 2 followed the same methodology as above however, the treatment media was added as a slurry to the CWS Waste and the resultant mix was allowed to cure before being crushed and analysed. The curing was completed in an enclosed space to allow for gas capture and analysis. The purpose of the two test method was to determine if addition of a wet mix is beneficial to the treatment and if chemical fixation occurs.

Treatment study 3 followed the same methodology as treatment study 2, however the sample was not crushed and monolith testing was completed, as described in **Section 2.2**.

Mixing ratios were tested in a staged fashion with one mid concentration ratio of each reagent (50% or 30%) tested initially the results of which informed the concentration for the subsequent tests. Following the initial treatment studies it was decided to complete subsequent testing on the waste at 10% lime, wet and dry, and 10% cement, wet and dry.

Run of station and fine grade fly ash from Eraring and Bayswater power stations were provided to the laboratory by Hydro as bulk samples of additional reagents for further treatment studies. Prior to use in treatment studies, random subsamples of each type of fly ash were analysed.

As with the variability study materials were tested for the following suite of analytes:

- NSW Landfill Suite for waste characterisation (including Total Recoverable Hydrocarbons, Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene (BTEXN), Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides (OCP), Organophosphate Pesticides (OPP), Polychlorinated Biphenyls (PCB), heavy metals, Phenols, Cyanide, Fluoride);
- Leachable Cyanide (CN) by Australian Standard Leaching Procedure (ASLP);
- Leachable Fluoride (F) by Toxicity Characteristic Leaching Procedure (TCLP); and
- Leachable Polycyclic Aromatic Hydrocarbons (PAH) by TCLP.

A summary of the laboratory analyses undertaken as part of the treatment study is shown in **Table 2.3** and **Table 2.4.** Monolith testing for samples mixed with $CaCl_2$ at 50% was not carried out due to the material not binding sufficiently to produce a monolith sample.

Table 2.3 Summary of Treatment Studies Laboratory Analyses

Treatment Study Samples	Number of samples	Asbestos ID and wt/wt	Leachable CN by ASLP	Leachable F by TCLP	Leachable PAHs by TCLP	NSW Landfill Suite*	Methane gas analysis	Ammonia gas analysis
Control untreated	24	24	24	24	24	24	24	-
50% Lime (dry)	6	-	6	6	6	6	6	6
50% $CaCl_2$ (dry)	6	-	6	6	6	6	6	6
30% Cement (dry)	6	-	6	6	6	6	6	6
50% Lime (wet)	6	-	6	6	6	6	6	6
50% $CaCl_2$ (wet)	6	-	6	6	6	6	6	6
30% Cement (wet)	6	-	6	6	6	6	6	6
10% Lime (dry)	6	-	6	6	6	6	-	-
10% Cement (dry)	6	-	6	6	6	6	-	-
10% Lime (wet)	6	-	6	6	6	6	-	-
10% Cement (wet)	6	-	6	6	6	6	-	-

* NSW Landfill Suite for waste characterisation (including TRH, BTEXN, PAHs, OCP, OPP, PCB, heavy metals, Phenols, CN, F)

'-' indicates not analysed

Table 2.4 Summary of Monolith Leach Testing

Monolith Leach Samples	Number of samples	Monolith Leachable CN**	Monolith Leachable F**	Monolith Leachable PAHs**
>125mm (control untreated)	12	108	108	108
50% Lime	6	54	54	54
30% Cement	6	54	54	54

**9 eluate samples are taken during the monolith leach testing

2.4 Part 3 OECD Testing

16 subsamples of the crushed CWS waste material were analysed for OECD (Organisation for Economic Co-operation and Development) Dangerous Goods Class 4.3, substances which in contact with water emit flammable gases. Sixteen samples of the CWS waste material were randomly collected from the core trays (MW201 through MW206) by Ramboll Environ personnel and forwarded to SGS Australia Pty Ltd laboratory for analyses under CoC protocol.

Laboratory testing was carried out under the methodology described in UN Manual of tests and Criteria, Part III, Section 33.4 – Division 4.3. The substances were brought into contact with water under a variety of conditions, in which spontaneous ignition can be observed and a measure of the amount of gas evolution was taken. The evolved gas was then assessed for flammability.

3. ASSESSMENT CRITERIA

3.1 Composition of CWS Wastes

The CWS is understood to contain the following materials:

- Spent pot lining;
- Carbon Plant shot blast refuse, including grit and dust;
- Carbon Plant dust collector product;
- Collar mix (coke, pitch) spillage;
- Carbon Plant floor sweepings;
- Packing coke oversize;
- Contaminated bath;
- Rotary breaker oversize;
- Pot lining mix (hot ramming paste);
- Rodding mix (coke, graphite, pitch and anthracene oil);
- Stud joining mix;
- Pitch spills/ pencil pitch;
- Aluminium swarf;
- Scrap aluminium billets;
- Anode cover material;
- Butt from spent anodes;
- Ahead of schedule anodes;
- Dross;
- Pot bottom aluminium;
- Consumable gaskets and insulation material (synthetic mineral fibre and asbestos);
- General rubbish, including plastic, wood and steel.

3.2 Waste Assessment Criteria

A preliminary waste characterisation has been undertaken to identify the likely classification of the fill material within the stockpile. The material has been screened against the NSW EPA Waste Classification guidelines, and the NSW EPA – Chemical Control Order in Relation to Aluminium Smelter Wastes Containing Fluoride and/or Cyanide, defined in the following sections.

3.2.1 NSW EPA Waste Classification Guidelines

The criteria to be used for the preliminary waste assessment of the stockpiled fill material for disposal off-site are the NSW EPA (2014) Waste Classification Guidelines. Part 1: Classifying Waste, 2014.

Waste classification is two tiered. The first set of guidelines is based on total contaminant concentrations (CT1 and CT2), whereas the second set of guidelines is based on a leachable (TCLP) concentration (TCLP1 and TCLP2) and a total contaminant concentration (SCC1 and SCC2). Material can be classified as General Solid Waste, Restricted Solid Waste, Hazardous Waste, and/or Special Waste by these guidelines.

'Special Waste' is a class of waste that has unique regulatory requirements, such as asbestos waste. If special waste is mixed with restricted solid or hazardous waste, it needs to be managed as both of those classifications as applicable.

Table 3.1 and **Table 3.2** present the waste classification guidelines used in the assessment of untreated and treated waste.

Table 3.1 Specific Contaminant Concentrations CT1 and CT2 - Waste Classification Guidelines

Contaminant	Maximum values of specific contaminant concentration (SCC) for classification without TCLP (CT1 and CT2)	
	General Solid Waste	Restricted Solid Waste
	CT1 (mg/kg)	CT2 (mg/kg)
Benzene	10	40
Toluene	288	1,152
Ethylbenzene	600	2,400
Total +ve Xylenes	1,000	4,000
Benzo(a)pyrene	0.8	3.2
Total +ve PAH's	200	800
Endosulfan I	60	240
Chlorpyriphos	4	16
Nitrobenzene	40	160
Phenol	288	1,152
2,4,6-trichlorophenol	40	160
2,4,5-trichlorophenol	8,000	32,000
Vinyl Chloride	4	16
chloroform	120	480
1,2-dichloroethane	10	40
1,1,1-trichloroethane	600	2,400
carbon tetrachloride	10	40
1,1,2-trichloroethane	24	96
1,1,1,2-tetrachloroethane	200	800
chlorobenzene	2,000	8,000
styrene	60	240
1,1,2,2-tetrachloroethane	26	104
1,4-dichlorobenzene	150	600
1,2-dichlorobenzene	86	344
Arsenic	100	400
Cadmium	20	80
Hexavalent Chromium, Cr6+	100	400
Lead	100	400
Mercury	4	16
Molybdenum	100	400
Nickel	40	160
Selenium	20	80
Silver	100	400
Free Cyanide in soil	70	280
Total Cyanide	320	1280
Total Fluoride	3,000	12,000

Table 3.2 Specific Contaminant Concentrations and Leachable Concentrations - Waste Classification Guidelines

Contaminant	Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)		Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)	
	Specific Contaminant Concentration (SCC1, mg/kg)	Leachable Concentration(TCLP1, mg/L)	Specific Contaminant Concentration (SCC2, mg/kg)	Leachable Concentration (TCLP2, mg/L)
Arsenic	500	5	2000	20
Benzo(a)pyrene	10	0.04	23	0.16
Cyanide	5,900	16	23,600	64
Fluoride	10,000	150	40,000	600
Lead	1500	5	6000	20
Nickel	1050	2	4000	20

3.2.2 NSW EPA – Chemical Control Order in Relation to Aluminium Smelter Wastes Containing Fluoride and/or Cyanide

Chemical control orders are a primary regulatory tool under the Environmentally Hazardous Chemicals Act 1985 (EHC Act) and are used by the EPA to selectively and specifically control particular chemicals of concern, and limit their potential or actual impact on the environment. Chemical control orders complement other environmental legislation by providing a rapid and flexible mechanism for responding to emerging chemical issues.

Chemical control order in relation to aluminium smelter wastes containing fluoride and/or cyanide (1986) sets controls on activities throughout the chemical's lifecycle through general requirements and by requiring that certain things be subject to particular licence conditions. These values are presented in **Table 3.3.**

Table 3.3 Chemical Control Order - Fluoride and Cyanide

Contaminant	Chemical Control Order (mg/L)
Leachable Cyanide	10
Leachable Fluoride	150

4. QUALITY ASSURANCE AND QUALITY CONTROL

The following quality assurance/quality control (QA/QC) procedures were employed during the study:

- All samples were collected by personnel, trained and experienced in the collection of samples for analysis, using standard industry techniques for sample collection;
- All samples were labelled with unique names, identifying location and date;
- The following quality control samples were also collected and submitted for analysis:
  - Six (6) interlaboratory duplicate samples of the bulk material, two (2) samples of material from <125mm fraction and two (2) samples from >125mm fraction (10 samples in total) were sent to ALS Environmental and analysed for the full suite of analytes;
  - Six (6) interlaboratory duplicate samples of the bulk material, two (2) samples of material from <125mm fraction and two (2) samples from >125mm fraction (10 samples in total) were sent to Eurofins Scientific and analysed for leachable Fluoride (TCLP) and leachable Cyanide (ASLP).
  - 28 (filtered) interlaboratory duplicate samples of eluate (T09) from the 28 monolith samples were sent to ALS Environmental and analysed for Fluoride, Cyanide, and PAHs.

A quality assurance assessment for this report is presented in **Appendix F**. An assessment was made of data completeness, comparability, representativeness, precision and accuracy based on field and laboratory considerations. Laboratory reports are provided in **Appendix G**.

5. RESULTS

5.1 Assessment of Variability

The following subsections **5.1.1** to **5.1.5** detail the results of the assessment of variability of the waste material based on the different size fractions. Laboratory analyses of samples carried out on the CWS waste material in 2015 (Ramboll Environ, 2016), as part of the installation of groundwater monitoring wells on the CWS, have been included in the waste classification results for untreated samples.

5.1.1 Particle Size Distribution (PSD)

A particle size distribution analysis was carried out on representative subsamples of the bulk samples of CWS waste in the laboratory. The results of which are graphically presented in **Appendix B**, **Figures B1** through **B6**.

The material is poorly graded and has a wide distribution in particle size. The samples were collected from 3.75" (95.25mm) diameter core samples recovered by a sonic drilling rig. It is expected that some of the waste would have been pulverised or disintegrated as a result of the drilling method.

5.1.2 Gas analysis

Analysis of headspace gas was undertaken in the laboratory during the preparation of samples for the treatment studies. Each of the selected samples of material were left in an enclosed space for a period of 24 hours, following which the headspace was analysed using calibrated gas analysers for methane and ammonia. The full set of gas analysis results are provided as part of **Appendix G – Laboratory Reports**.

Methane generation was analysed in the laboratory using a GEM2000+ and a Gazomat Inspectra Laser. 24 subsamples of untreated material were tested for methane generation subsequent to crushing, as control samples. Samples of crushed material treated with lime at 50% (wet and dry), $CaCl_2$ at 50% (wet and dry), and cement at 30% (wet and dry) were also tested, subsequent to mixing. The results of the methane testing, measured in parts per million by volume, is summarised in **Table 5.1**.

Table 5.1 Summary of methane generation results

Sample type	Number of samples	Min (ppmv)	Max (ppmv)
Control (untreated)	24	<3	-
50% Lime (dry)	6	<3	10
50% $CaCl_2$ (dry)	6	<3	-
30% Cement (dry)	6	<3	9
50% Lime (wet)	6	6	>200
50% $CaCl_2$ (wet)	6	<3	-
30% Cement (wet)	6	8	41

'-' indicates no result measured

Ammonia generation was analysed in the laboratory using SKC 226-10-06 silica gel tubes using a calibrated pump. Samples of crushed material treated with lime at 50% (wet and dry), $CaCl_2$ at 50% (wet and dry), and cement at 30% (wet and dry) were tested, subsequent to mixing. The results of the ammonia testing, measured in mg/m^3, is summarised in **Table 5.2**.

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Table 5.2 Summary of ammonia generation results

Sample type	Number of samples	Min (mg/m^3)	Max (mg/m^3)
50% Lime (dry)	6	124	2382.1
50% $CaCl_2$ (dry)	6	1.1	3.1
30% Cement (dry)	6	77.6	1380
50% Lime (wet)	6	1800	3733
50% $CaCl_2$ (wet)	6	1.4	6.1
30% Cement (wet)	6	2129.9	12,856

Lime mixed with the waste material as a slurry at 50% dosage was found to produce the most methane, followed by cement at 30% dosage as a slurry.

Significant amounts of ammonia gas was produced from combining the waste with both 50% lime and 30% cement. The production of ammonia was elevated when the admixtures were added as a slurry.

Considering that the samples were taken from drill cores that had been in storage in core trays for over a year prior to subsampling for the purposes of this study, this may have an effect on the baseline results for gas production for untreated waste.

5.1.3 Asbestos

60 samples were analysed for the presence of asbestos and percentage weight for weight in the material. This included 36 subsamples from the bulk unsorted samples, 12 subsamples from the fraction >125mm and 12 subsamples from the fractions <125mm. The full set of asbestos results are provided in **Appendix A – Waste Classification Results** and **Appendix G – Laboratory Reports**. A further 19 samples of the CWS waste from the drill cores were analysed in 2015 for the asbestos detection.

Asbestos was detected in 32 out of the 79 primary samples analysed. The results are summarised in **Table 5.3**.

Table 5.3 Summary of Asbestos Results

Primary samples	Number of Samples	Number of detections	Number of asbestos detections >0.1g/kg	Total Asbestos, g/kg	
				Min	Max
2015 samples	19	6	-	-	-
Bulk material	36	17	3	0.1036	0.4691
Fraction <125mm	12	7	1	0.2626	0.2626
Fraction >125mm	12	2	0	-	-

'-' indicates not measured

5.1.4 Waste Classification

Following the NSW EPA Waste Classification Guidelines, Part 1: Classifying Wastes, waste are classified following a stepwise process.

Step 1 – Is the waste Special Waste?

The CWS waste is known to contain asbestos in bonded or friable form.

Where wastes are classified as Special Waste, but mixed with restricted solid or hazardous waste, the waste must be classified as both special waste and restricted solid or hazardous (as applicable).

Step 2 – is the waste Liquid Waste?

No, the waste does not meet the definition of liquid waste.

Step 3 – Is the waste pre-classified?
Two commonly generated waste types are potentially included within the CWS, as follows:

- "Containers, having previously contained a substance of Class 1, 3, 4, 5 or 8 within the meaning of the Transport of Dangerous Goods Code, or a substance to which Division 6.1 of the Transport of Dangerous Goods Code applies, from which residues have not been removed by washing or vacuuming" – Dangerous goods Class 4.3 material is present within the CWS. This includes aluminium dross, aluminium skimmings, spent cathodes, spent pot lining, and aluminium salt slags. These materials were disposed directly and not contained. Therefore there are no containers that previously contained Class 4.3 within the stockpile.
- "Coal tar or coal tar pitch waste (being the tarry residue from the heating, processing or burning of coal or coke) comprising of more than 1% (by weight) of coal tar or coal tar pitch waste" – Coal tar pitch is used in the making of anodes used in the smelting process. These anodes are heat treated prior to disposal. Some untreated pitch may be present in the capped waste stockpile, however these are expected to be very small amounts.

Step 4 – Does the waste possess hazardous characteristics?
The waste contains SPL, which is classified as a Dangerous Goods 4.3, UN code 3170, applying to aluminium smelting by-products. The definition of Dangerous Goods code 4.3 is substances which in contact with water emit flammable gases that are liable to become spontaneously flammable, or emit flammable gases in dangerous quantities.

Whilst the Dangerous Goods classification may apply to SPL, the SPL within the CWS is considered to be weathered and/or 'pre-reacted' due to historical de-lining procedures and no longer emitting flammable gases at ignitable levels or in dangerous quantities. Please refer to **Section 5.2** for a summary of OECD Testing of CWS waste.

The waste is therefore not considered to be pre-classified as Hazardous.

Step 5 – Determining a waste's classification using chemical assessment.
Where wastes are not characterised by steps 1 to 4, chemical characterisation is required. The first component is to classify the waste using a contaminant threshold. The EPA Waste Classification Guidelines for specific contaminant concentrations used in the classification of the waste are specified in **Section 3.2.1**.

A summary of the waste classification results for untreated, unsorted CWS waste material is provided in **Table 5.4**. Contaminants found to be below the laboratory Practical Quantitation Levels (PQLs) and below the waste classification screening levels for General Solid Waste have been discounted from the summary table.

Table 5.4 Waste classification of untreated material using chemical assessment – all categories

Analyte	Unit	No. of samples	Min conc.[1]	Max conc.	No. above GL[2]	95% UCL[3]	Waste Classification (max. conc.)	Waste Classification (95% UCL)
TRH C6 - C10	mg/kg	48	<25	n/a	0	-	**GSW[4]**	**GSW**
Toluene	mg/kg	48	<0.5	n/a	0	-	**GSW**	**GSW**
Benzo(a)pyrene	mg/kg	57	<0.05	832	46	193.4	**HAZ[5]**	**HAZ**
Benzo(a)pyrene in TCLP	mg/L	54	<0.001	0.002	0	-	**GSW**	**GSW**
Total +ve PAHs	mg/kg	57	0.5	6320	41	1546	**HAZ**	**HAZ**
Total +ve PAHs in TCLP	mg/L	54	NIL +ve	0.522	0	-	**GSW**	**GSW**
Arsenic	mg/kg	36	<4	850	7	189.4	**RSW[6]**	**GSW**
Arsenic in TCLP	mg/L	8	<0.05	0.08	0	-	**GSW**	**GSW**
Cadmium	mg/kg	36	<0.4	1	0	-	**GSW**	**GSW**
Lead	mg/kg	36	18	640	18	351.9	**GSW**	**GSW**
Lead in TCLP	mg/L	8	<0.03	0.56	0	-	**GSW**	**GSW**
Mercury	mg/kg	48	<0.1	0.2	0	-	**GSW**	**GSW**
Molybdenum	mg/kg	36	<1	12	0	-	**GSW**	**GSW**
Nickel	mg/kg	36	34	170	33	73.49	**GSW**	**GSW**
Nickel in TCLP	mg/L	8	0.02	0.1	0	-	**GSW**	**GSW**
Silver	mg/kg	36	<1	2	0	-	**GSW**	**GSW**
Free Cyanide in soil	mg/kg	36	<0.5	8.8	0	-	**GSW**	**GSW**
Total Cyanide	mg/kg	63	4	734	2	155.1	**GSW**	**GSW**
Total Cyanide in Neutral Leach (ASLP)	mg/L	54	0.198	10	0	-	**GSW**	**GSW**
Total Fluoride	mg/kg	55	184	51,700	47	30,585	**HAZ**	**RSW**
Fluoride in TCLP	mg/L	54	42	909	30	337	**>CCO[7]**	**>CCO[7]**
Asbestos ID	g/kg	55	Not Present	Present	23	-	**Asbestos Waste**	**Asbestos Waste**

[1]Minimum/Maximum Concentration

[2]Number of samples above Guidelines (NSW EPA Waste Classification / NSW EPA Chemical Control Order) – includes CT1, CT2, SCC1, and SCC2 for total concentrations

[3]95% Upper Confidence Limit, calculated using ProUCL Version 5.1

[4]General Solid Waste

[5]Hazardous Waste

[6]Restricted Solid Waste

[7]NSW EPA Chemical Control Order in Relation to Aluminium Smelter Wastes Containing Fluoride and/or Cyanide

[8]All detections of asbestos, including samples less than g/kg detection limits

n/a – not applicable

'-' indicates 95% UCL not calculated, as maximum concentration did not exceed the guidelines

On the basis of the chemical assessment, following the classification hierarchy, material within the CWS is considered to be Hazardous Special Wastes on the basis of elevated concentrations of leachable fluoride, benzo(a)pyrene, total PAHs and the presence of asbestos fibres.

Eight selected samples were tested for leachable arsenic, lead, and nickel and these results were compared to the guidelines taking into account the total concentrations. The maximum total and leachable concentrations of lead and nickel were found to be below the assessment criteria in

Table 3.2. Leachable concentrations of arsenic were below the assessment criteria, however the maximum total concentration of arsenic was found to exceed the SCC1 criteria. Applying the 95% Upper Confidence Limit (UCL) to the total concentrations, calculated using the arithmetic mean concentration, the 95% UCL for total arsenic is below the SCC1 criterion.

50% of samples exceeded the leachable fluoride guidelines provided in the Chemical Control Order in relation to Aluminium Smelter Wastes Containing Fluoride and/or Cyanide.

The full analytical results used for the waste classification are provided in **Appendix A – Waste Classification Results**, and included in **Appendix G – Laboratory Reports**.

Table 5.5 shows the waste classification of the untreated CWS waste in terms of variability in size. Samples of bulk material (36 samples), unsorted material less than 125mm in size (12 samples) and material greater than 125mm in size were assessed (12 samples).

Table 5.5 Waste classification of untreated waste (bulk samples, samples >125mm, samples <125mm)

Analyte	Unit	BULK						SAMPLES >125mm						SAMPLES <125mm					
		No of samples	Min conc.	Max conc.	Ave. conc.[1]	No. above GL	WC[2]	No of Samples	Min conc.	Max conc.	Ave. conc	No. above GL	WC	No of samples	Min conc.	Max conc.	Ave. conc.	No. above GL	WC
Total Petroleum Hydrocarbons																			
TRH C6 C10	Mg/kg	36	<25	n/a	-	0		12	<25	n/a	-	0	GSW	12	<25	n/a	-	0	GSW
Benzene	Mg/kg	36	<0.2	n/a	-	0	GSW	12	<0.2	n/a	-	0	GSW	12	<0.2	n/a	-	0	GSW
Toluene	Mg/kg	36	<0.5	n/a	-	0	GSW	12	<0.5	n/a	-	0	GSW	12	<0.5	n/a	-	0	GSW
Ethylbenzene	Mg/kg	36	<1	n/a	-	0	GSW	12	<1	n/a	-	0	GSW	12	<1	n/a	-	0	GSW
Total +ve TRH (>C10-C40)	Mg/kg	36	1600	10000	5267	0	GSW	12	<50	1700	778	0	GSW	12	1100	17000	8333	0	GSW
Polycyclic Aromatic Hydrocarbons																			
Benzo(a)pyrene	Mg/kg	36	23	390	138	36	HAZ	12	<0.05	44	12	7	HAZ	12	29	470	213	12	HAZ
Benzo(a)pyrene in TCLP	Mg/L	36	<0.001	0.002	0.0015	0	GSW	12	<0.001	n/a	-	0	GSW	12	<0.001	0.002	0.002	0	GSW
Total +vw PAH's	Mg/kg	36	240	2800	1146	36	HAZ	12	0.67	820	126	2	HAZ	12	270	3800	1777	12	HAZ
Total Leachable PAHs	Mg/L	36	NIL(+)ve	0.09	0.023	0	GSW	12	NIL(+)ve	0.001	0.001	0	GSW	12	0.009	0.12	0.064	0	GSW

Metals and Inorganics																			
Arsenic	Mg/kg	36	6	850	80	7	GSW	12	<4	5	4.5	0	GSW	12	6	410	81.5	2	GSW
Arsenic in TCLP	Mg/l	8	<0.05	0.08	-	-	GSW	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	Mg/kg	36	0.4	1	0.65	0	GSW	12	<0.4	n/a	-	0	GSW	12	<0.4	0.9	0.67	0	GSW
Lead	Mg/kg	36	18	640	202	18	GSW	12	1	10	4.92	0	GSW	12	19	820	206.25	5	GSW
Lead in TCLP	Mg/L	8	<0.03	0.56	0.396	-	GSW	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	Mg/kg	36	<0.1	0.2	0.13	0	GSW	12	<0.1	n/a	-	0	GSW	12	<0.1	0.3	0.25	0	GSW
Molybdenum	Mg/kg	36	2	12	6.3	0	GSW	12	1	2	1.29	0	GSW	12	2	10	6.33	0	GSW
Nickel	Mg/kg	36	34	170	66	33	GSW	12	11	47	19.5	1	GSW	12	35	110	69.83	10	GSW
Nickel TCLP	Mg/L	8	0.02	0.1	0.07375	-	GSW	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	Mg/kg	36	<2	n/a	-	0	GSW	12	<2	n/a	-	0	GSW	12	<2	n/a	-	0	GSW
Silver	Mg/kg	36	<1	2	1.4	0	GSW	12	<1	n/a	-	0	GSW	12	<1	2	2	0	GSW
Free Cyanide in Soil	Mg/kg	36	0.5	8.8	3.42	0	GSW	12	0.6	6.8	3.27	0	GSW	12	<0.5	5.5	2.8	0	GSW
Total Cyanide	mg/kg	36	61	270	150	0	GSW	12	32	190	69	0	GSW	12	75	180	117.7	0	GSW
Leachable Cyanide	mg/L	36	2.5	10	6.29	0	GSW	12	1.8	7.5	3.36	0	GSW	12	3.3	7.9	5.6	0	GSW

Hex Chronium, Cr6+	mg/kg	36	<1	n/a	-	0	GSW	12	<1	n/a	-	0	GSW	12	<1	n/a	-	0	GSW
Total Fluoride	mg/kg	36	14,200	51,700	30,366	36	HAZ	12	8727	405,498	55,729	12	HAZ	12	11,200	42,424	23,257	12	HAZ
Fluoride (TCLP Leachate)	mg/L	36	42.3	224.3	143.5	18	>CCO	12	33.6	2102.8	439	6	>CCO	12	62.8	210.7	145	6	>CCO
Asbestos ID	g/kg	36	-	0.4691	-	3	SW[3]	12	-	n/a	-	0	GSW	12	-	n/a	-	1	SW

[1]Average concentration

[2]Waste Classification

[3]Special (Asbestos) Waste

n/a – not applicable

'-' indicates not measured / not calculated

5.1.5 Monolith testing

Large fraction samples of CWS waste material greater than 125mm were tested using the monolith leaching procedure detailed in **Section 2.2.** These untreated monolith samples are used as a basis for comparison and assessment of the treated monolith samples.

The results of the monolith leach eluate testing is summarised in **Table 5.6**. The full set of analytical results are provided in **Table E1** as part of **Appendix E** and as part of the laboratory reports provided in **Appendix G**.

Table 5.6 presents a summary of the results of monolith leach testing of the untreated CWS waste material. The average of the maximum results presented here is 249mg/L, and below the 337 mg/L determined for samples crushed and tested following the TCLP 1311 test method.

Table 5.6 Monolith contaminant concentrations in eluates T01 to T09 – untreated samples >125mm

>125mm Untreated	Analyte	Benzo(a)pyrene (unfiltered)	Benzo(a)pyrene (filtered)	Total +ve PAH's (unfiltered)	Total +ve PAH's (filtered)	Total Cyanide (unfiltered)	Total Cyanide (filtered)	Fluoride (unfiltered)	Fluoride (filtered)
Eluate	Unit	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L
	No. of samples	12	12	12	12	12	12	12	12
	Min	<1	<1	NIL (+)VE	NIL (+)VE	<0.004	<0.004	1.7	1.7
T01	Max	44	-	360	10	7.8	7.4	190	200
	No. above GL	1	0	0	0	0	0	2	2
	Min	<1	<1	NIL (+)VE	NIL (+)VE	<0.004	<0.004	0.4	0.4
T02	Max	-	-	11	-	1.7	1.7	160	170
	No. above GL	0	0	0	0	0	0	1	1
	Min	<1	<1	NIL (+)VE	NIL (+)VE	<0.004	<0.004	0.4	0.4
T03	Max	-	-	3.8	-	1.1	1	130	130
	No. above GL	0	0	0	0	0	0	0	0
	Min	<1	<1	NIL (+)VE	NIL (+)VE	<0.004	0.005	0.7	0.8
T04	Max	-	-	5.9	-	3.2	3	250	240
	No. above GL	0	0	0	0	0	0	2	3
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.007	0.004	0.9	1
T05	Max	-	-	4.4	2.4	2.9	2.6	340	340
	No. above GL	0	0	0	0	0	0	4	4

T06	**Min**	<1	<1	NIL (+)VE	NIL (+)VE	<0.004	<0.004	1.3	1.4
	Max	-	-	-	-	3.6	3.7	**400**	**370**
	No. above GL	0	0	0	0	0	0	6	6
T07	**Min**	<1	<1	NIL (+)VE	NIL (+)VE	<0.004	<0.004	0.7	0.7
	Max	-	-	5.1	-	2.7	2.7	**330**	**330**
	No. above GL	0	0	0	0	0	0	6	6
T08	**Min**	<1	<1	NIL (+)VE	NIL (+)VE	<0.004	<0.004	0.2	0.2
	Max	0	0	5.7	2.1	1	1	150	**160**
	No. above GL	0	0	0	0	0	0	0	1
T09	**Min**	<1	<1	NIL (+)VE	NIL (+)VE	<0.004	<0.004	0.4	0.4
	Max	5	0	39	0	1.6	1.6	**220**	**220**
	No. above GL	0	0	0	0	0	0	2	2

44	Exceeds NSW EPA Waste Classification maximum value for leachable concentration (TCLP2)
190	Exceeds NSW EPA Chemical Control Order in Relation to Aluminium Smelter Wastes Containing Fluoride and / or Cyanide
-	Not measured

5.2 OECD Testing

24-25g of each of the 16 samples of CWS waste was brought into contact with at least 50ml of water in a closed system. Gas readings were taken at the start of the test and after 48 hours.

The laboratory concluded that for the samples provided, no gas, including flammable gas, was observed to evolve throughout the duration of the test for each sample.

The laboratory report by SGS Australia Pty Ltd is provided in **Appendix C – OECD Testing Report**.

5.3 Treatment Study

The following details the results of the laboratory analysis carried out as part of the treatment studies. The results have been analysed with respect to the assessment criteria outlined in **Section 3**.

5.3.1 Chemical Fixation

The assessment of treatment options for chemical fixation was carried out by treating the CWS waste material with agricultural lime and calcium chloride ($CaCl_2$).

The objective of the chemical fixation with lime and calcium chloride was to form calcium fluoride (CaF_2) which as a relatively low solubility, decreasing the potential of leaching of fluorides.

The chemical fixation treatment results are summarised in **Table 5.7** to **Table 5.9**. These tables present, in terms of waste classification, the effect of treatment on crushed samples of waste with lime, applied dry (Treatment Study 1) and wet (Treatment Study 2), at 50% and 10%

dosages, and $CaCl_2$ applied dry and wet at 50% dosage. The full set of chemical fixation results are provided in **Tables D1** and **D2** in **Appendix D** and as part of the laboratory reports in **Appendix G.**

Table 5.7 Waste classification of treated waste (lime, Treatment Study 1)

Analyte	Unit	50% Lime (dry)						10% Lime (dry)					
		No of samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification	No of Samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification
Total Petroleum Hydrocarbons													
TRH C6 C10	Mg/kg	6	<25	n/a	-	0	GSW	6	<25	n/a	-	0	GSW
Benzene	Mg/kg	6	<0.2	n/a	-	0	GSW	6	<0.2	n/a	-	0	GSW
Toluene	Mg/kg	6	<0.5	n/a	-	0	GSW	6	<0.5	n/a	-	0	GSW
Ethylbenzene	Mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Total +ve TRH (>C10C40)	Mg/kg	6	477	9689	4386.8	0	GSW	6	600	12000	6700	0	GSW
Polycyclic Aromatic Hydrocarbons													
Benzo(a)pyrene	mg/kg	6	14	340	128.7	6	**HAZ**	6	12	370	156. 7	6	**HAZ**
Total +ve PAH's	mg/kg	6	130	2288	972.2	4	**HAZ**	6	160	3200	1448.3	5	**HAZ**
Benzo(a)pyrene in TCLP	mg/L	6	<0.001	0.0012	0.001	0	GSW	6	<0.001	n/a	-	0	GSW
Total Leachable PAHs	mg/L	6	NIL(+)ve	0.067	0.031	0	GSW	6	0.007	0.057	0.0264	0	GSW
Metals and Inorganics													
Arsenic	mg/kg	6	6	35	21.8	0	GSW	6	5	46	23.8	0	GSW
Cadmium	mg/kg	6	<0.4	0.5	0.43	0	GSW	6	<0.4	0.5	0.48	0	GSW
Lead	mg/kg	6	6	186	55.7	1	**RSW**	6	12	240	88. 7	2	**RSW**
Mercury	mg/kg	6	<0.1	n/a	-	0	GSW	6	<0.1	n/a	-	0	GSW
Molybdenum	mg/kg	6	2	3	2.5	0	GSW	6	2	9	5.3	0	GSW
Nickel	mg/kg	6	17	46	29	1	**RSW**	6	34	180	78. 7	4	**HAZ**

Selenium	mg/kg	6	<2	n/a	-	0	GSW	6	<2	n/a	-	0	GSW
Silver	mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Free Cyanide in Soil	mg/kg	6	0.5	1.3	0.83	0	GSW	6	<0.5	n/a	-	0	GSW
Total Cyanide	mg/kg	6	0.9	3.1	1.75	0	GSW	6	73	240	162.5	0	GSW
Leachable Cyanide	mg/L	6	0.014	0.051	0.031	0	GSW	6	3.1	10	6.82	0	GSW
Hex Chronium, Cr6+	mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Total Fluoride	mg/kg	6	13,741	22,530	17,570	6	**RSW**	6	9500	33,000	18,583	6	**RSW**
Fluoride (TCLP Leachate)	mg/L	6	4.188	10.778	8.72	0	GSW	6	23	84	42.5	0	GSW

Table 5.8 Waste classification of treated waste (lime, Treatment Study 2)

Analyte	Unit	50% Lime (wet)						10% Lime (wet)					
		No of samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification	No of Samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification
Total Petroleum Hydrocarbons													
TRH C6 C10	Mg/kg	6	<25	n/a	-	0	GSW	6	<25	n/a	-	0	GSW
Benzene	Mg/kg	6	<0.2	n/a	-	0	GSW	6	<0.2	n/a	-	0	GSW
Toluene	Mg/kg	6	<0.5	n/a	-	0	GSW	6	<0.5	n/a	-	0	GSW
Ethylbenzene	Mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Total +ve TRH (>C10C40)	Mg/kg	6	195	4858	1743.8	0	GSW	6	160	5000	2170	0	GSW
Polycyclic Aromatic Hydrocarbons													
Benzo(a)pyrene	mg/kg	6	10	209	74.2	6	**HAZ**	6	4.7	140	45.37	6	**HAZ**
Total +ve PAH's	mg/kg	6	116	1374	561.7	4	**HAZ**	6	49	1100	413.8	3	**HAZ**
Benzo(a)pyrene in TCLP	mg/L	6	<0.001	n/a	-	0	GSW	6	<0.001	n/a	-	0	GSW
Total Leachable PAHs	mg/L	6	0.004	0.078	0.041	0	GSW	6	0.003	0.047	0.0214	0	GSW
Metals and Inorganics													
Arsenic	mg/kg	6	5	34	15.6	0	GSW	6	5	24	13.3	0	GSW
Cadmium	mg/kg	6	<0.4	0.6	0.47	0	GSW	6	<0.4	0.5	0.46	0	GSW
Lead	mg/kg	6	11	147	56.5	1	**RSW**	6	15	150	64.7	2	**RSW**
Mercury	mg/kg	6	<0.1	n/a		0	GSW	6	<0.1	n/a	-	0	GSW
Molybdenum	mg/kg	6	1	4	2.7	0	GSW	6	<1	8	4.3	0	GSW
Nickel	mg/kg	6	25	53	40.7	4	**RSW**	6	35	180	75	5	**HAZ**
Selenium	mg/kg	6	<2	n/a	-	0	GSW	6	<2	n/a	-	0	GSW

Silver	mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Free Cyanide in Soil	mg/kg	6	1	5.5	3.28	0	GSW	6	<0.5	n/a	-	0	GSW
Total Cyanide	mg/kg	6	2.8	9.4	6.65	0	GSW	6	68	200	142.2	0	GSW
Leachable Cyanide	mg/L	6	0.043	0.15	0.0907	0	GSW	6	2.5	7.1	5.2	0	GSW
Hex Chronium, Cr6+	mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Total Fluoride	mg/kg	6	16,650	28,146	23,449.7	6	**RSW**	6	12,000	33,000	25,166.7	6	**RSW**
Fluoride (TCLP Leachate)	mg/L	6	0.818	12.15	9.524	0	GSW	6	140	300	220	5	**>CCO**

Table 5.9 Waste classification of treated waste ($CaCl_2$, Treatment Study 1 and 2)

Analyte	Unit	50% $CaCl_2$ (dry)						50% $CaCl_2$ (wet)					
		No of samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification	No of Samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification
Total Petroleum Hydrocarbons													
TRH C6 C10	Mg/kg	6	<25	n/a	-	0	GSW	6	<25	n/a	-	0	GSW
Benzene	Mg/kg	6	<0.2	n/a	-	0	GSW	6	<0.2	n/a	-	0	GSW
Toluene	Mg/kg	6	<0.5	n/a	-	0	GSW	6	<0.5	n/a	-	0	GSW
Ethylbenzene	Mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Total +ve TRH (>C10C40)	Mg/kg	6	807	8650	4384.2	0	GSW	6	561	9416	3561.7	0	GSW
Polycyclic Aromatic Hydrocarbons													
Benzo(a)pyrene	mg/kg	6	24	300	145.2	6	**HAZ**	6	17	370	140.3	6	**HAZ**
Total +ve PAH's	mg/kg	6	211	2120	1076.3	6	**HAZ**	6	177	2559	1049.7	5	**HAZ**
Benzo(a)pyrene in TCLP	mg/L	6	<0.001	n/a	-	0	GSW	6	<0.001	n/a	-	0	GSW
Total Leachable PAHs	mg/L	6	0.004	0.079	0.036	0	GSW	6	0.004	0.063	0.0337	0	GSW
Metals and Inorganics													
Arsenic	mg/kg	6	4	118	29.3	1	**RSW**	6	5	22	12	0	GSW
Cadmium	mg/kg	6	<0.4	n/a	-	0	GSW	6	<0.4	n/a	-	0	GSW
Lead	mg/kg	6	10	177	59.3	1	**RSW**	6	9	144	56.7	2	**RSW**
Mercury	mg/kg	6	<0.1	n/a	-	0	GSW	6	<0.1	n/a	-	0	GSW
Molybdenum	mg/kg	6	2	3	2.5	0	GSW	6	1	4	2.3	0	GSW
Nickel	mg/kg	6	21	44	33.7	1	**RSW**	6	21	42	34.3	1	**RSW**

Selenium	mg/kg	6	<2	n/a	-	0	GSW	6	<2	n/a	-	0	GSW
Silver	mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Free Cyanide in Soil	mg/kg	6	0.5	0.6	0.6	0	GSW	6	<0.5	0.7	0.65	0	GSW
Total Cyanide	mg/kg	6	0.8	6.2	2.58	0	GSW	6	0.5	1.1	0.7	0	GSW
Leachable Cyanide	mg/L	6	0.65	2.7	1.442	0	GSW	6	0.11	0.24	0.173	0	GSW
Hex Chronium, Cr6+	mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Total Fluoride	mg/kg	6	4370	42,876	25,172.2	6	**HAZ**	6	17,093	38,778	28,802.2	6	**RSW**
Fluoride (TCLP Leachate)	mg/L	6	196.7	416.5	265.72	6	**>CCO**	6	175	289	254.8	6	**>CCO**

5.3.2 Solidification and Stabilisation

The assessment options for solidification and stabilisation was carried out using Portland cement. The basis for this treatment option is to limit the solubility and mobilisation potential of contaminants within the waste by physical means. Ordinary Portland cement contains, typically, up to 67% calcium oxide (CaO), or quicklime which reacts with water to form calcium hydroxide ($Ca(OH)_2$), or hydrated lime. Hydrated lime was used during the treatment trials as an option for chemical fixation.

The solidification and stabilisation results are summarised, in terms of waste classification, in **Table 5.10** and **Table 5.11**. These tables present the effect on the waste classification of adding cement on a dry and wet basis to crushed samples of waste material at 30% and 10%. The full set of solidification and stabilisation results are provided in **Tables D1** and **D2** in **Appendix D** and as part of the laboratory reports in **Appendix G.**

Table 5.10 Waste classification of treated waste (cement, Treatment Study 1)

Analyte	Unit	30% Cement (dry)						10% Cement (dry)					
		No of samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification	No of Samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification
Total Petroleum Hydrocarbons													
TRH C6 C10	Mg/kg	6	<25	-	-	-	GSW	6	<25	-	-	-	GSW
Benzene	Mg/kg	6	<0.2	-	-	-	GSW	6	<0.2	-	-	-	GSW
Toluene	Mg/kg	6	<0.5	-	-	-	GSW	6	<0.5	-	-	-	GSW
Ethylbenzene	Mg/kg	6	<1	-	-	-	GSW	6	<1	-	-	-	GSW
Total +ve TRH (>C10C40)	Mg/kg	6	756	11026	5100	-	GSW	6	890	13000	6931.667	-	GSW
Polycyclic Aromatic Hydrocarbons													
Benzo(a)pyrene	mg/kg	6	27	440	178.333	6	**HAZ**	6	16	350	151.667	6	**HAZ**
Total +ve PAH's	mg/kg	6	251	3272	1331.333	4	**HAZ**	6	160	3100	1410	5	**HAZ**
Benzo(a)pyrene in TCLP	mg/L	6	<0.001	-	-	-	GSW	6	<0.001	-	-	-	GSW
Total Leachable PAHs	mg/L	6	0.002	0.058	0.036	-	GSW	6	0.001	0.047	0.023	-	GSW
Metals and Inorganics													
Arsenic	mg/kg	6	5	61	23.167	-	GSW	6	5	44	20.167	-	GSW
Cadmium	mg/kg	6	<0.4	0.5	0.5	-	GSW	6	<0.4	0.5	0.5	-	GSW
Lead	mg/kg	6	13	170	58.667	1	**RSW**	6	12	190	78.167	2	**RSW**
Mercury	mg/kg	6	<0.1	-	-	-	GSW	6	<0.1	-	-	-	GSW
Molybdenum	mg/kg	6	1	3	2	-	GSW	6	2	7	4.167	-	GSW
Nickel	mg/kg	6	21	45	35.667	1	**RSW**	6	32	170	71	4	**HAZ**
Selenium	mg/kg	6	<2	-	-	-	GSW	6	<2	-	-	-	GSW

Silver	mg/kg	6	<1	-	-	-	GSW	6	<1	-	-	-	GSW
Free Cyanide in Soil	mg/kg	6	0.8	1	0.9	-	GSW	6	<0.5	-	-	-	GSW
Total Cyanide	mg/kg	6	15.2	87.4	58.117	-	GSW	6	66	220	151.333	-	GSW
Leachable Cyanide	mg/L	6	1.9	5.1	3.933	-	GSW	6	2.6	9.9	6.933	-	GSW
Hex Chronium, Cr6+	mg/kg	6	<1	-	-	-	GSW	6	<1	-	-	-	GSW
Total Fluoride	mg/kg	6	11,677	31,283	25,961.3	6	**RSW**	6	18,000	33,000	24,833.3	6	**RSW**
Fluoride (TCLP Leachate)	mg/L	6	0.432	34.597	12.106	-	GSW	6	72	220	136.167	2	**>CCO**

Table 5.11 Waste classification of treated waste (cement, Treatment Study 2)

Analyte	Unit	30% Cement (wet)						10% Cement (wet)					
		No of samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification	No of Samples	Min conc.	Max conc.	Ave. conc.	No. above GL	Waste Classification
Total Petroleum Hydrocarbons													
TRH C6 C10	Mg/kg	6	<25	n/a	-	0	GSW	6	<25	n/a	-	0	GSW
Benzene	Mg/kg	6	<0.2	n/a	-	0	GSW	6	<0.2	n/a	-	0	GSW
Toluene	Mg/kg	6	<0.5	n/a	-	0	GSW	6	<0.5	n/a	-	0	GSW
Ethylbenzene	Mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Total +ve TRH (>C10C40)	Mg/kg	6	401	8838	3955.3	0	GSW	6	<50	8600	5800	0	GSW
Polycyclic Aromatic Hydrocarbons													
Benzo(a)pyrene	mg/kg	6	15	360	163	6	**HAZ**	6	2.2	250	112.2	6	**HAZ**
Total +ve PAH's	mg/kg	6	177	2569	1216.7	5	**HAZ**	6	27	2100	1011.2	4	**HAZ**
Benzo(a)pyrene in TCLP	mg/L	6	<0.001	n/a	-	0	GSW	6	<0.001	n/a	-	0	GSW
Total Leachable PAHs	mg/L	6	0.002	0.06	0.033	0	GSW	6	0.001	0.051	0.022	0	GSW
Metals and Inorganics													
Arsenic	mg/kg	6	7	214	44.8	1	**RSW**	6	5	52	19.2	0	GSW
Cadmium	mg/kg	6	<0.4	0.4	0.4	0	GSW	6	<0.4	0.5	0.5	0	GSW
Lead	mg/kg	6	12	210	72.3	2	**RSW**	6	20	200	81.8	2	**RSW**
Mercury	mg/kg	6	<0.1	n/a	-	0	GSW	6	<0.1	n/a	-	0	GSW
Molybdenum	mg/kg	6	1	5	2.8	0	GSW	6	2	9	4.8	0	GSW
Nickel	mg/kg	6	28	51	41.7	4	**RSW**	6	33	160	74.5	5	**RSW**

Selenium	mg/kg	6	<2	n/a	-	0	GSW	6	<2	n/a	-	0	GSW
Silver	mg/kg	6	<1	n/a	-	0	GSW	6	<1	n/a	-	0	GSW
Free Cyanide in Soil	mg/kg	6	1.1	2.1	1.5	0	GSW	6	<0.5	n/a	-	0	GSW
Total Cyanide	mg/kg	6	40.2	107.9	78.05	0	GSW	6	67	200	136.2	0	GSW
Leachable Cyanide	mg/L	6	1.8	4.7	3.45	0	GSW	6	3.1	7.3	5.32	0	GSW
Hex Chronium, Cr6+	mg/kg	6	1	1	1	0	GSW	6	<1	n/a	-	0	GSW
Total Fluoride	mg/kg	6	24,511	49,113	34,877.8	6	**HAZ**	6	16,000	35,000	24,333.3	6	**RSW**
Fluoride (TCLP Leachate)	mg/L	6	5.845	24.883	11.248	0	GSW	6	130	270	213.3	5	**>CCO**

5.3.3 Treated monolith testing

Monolith specimens of treated material were composed in the laboratory using a mould, and allowing the formed monolith to cure before carrying out the monolith leach procedure – method 1315 (USEPA, 2013) as detailed in **Section 2.2**. Monolith samples were formed using lime at 50% dosage and Portland cement at 30% dosage. Both admixtures were added to the CWS waste material as a slurry.

Attempts were made to construct monolith specimens using $CaCl_2$ however the material would not bond sufficiently to undergo the monolith leach procedure. For this reason no monolith testing has been carried out on material treated with $CaCl_2$. One other monolith specimen, sample MW205 dosed at 30% cement slurry, failed and hence was excluded from the study.

A summary of the treated monolith samples (lime at 50% and cement at 30%) eluate concentrations (T01 to T09) for contaminants of concern is presented in **Table 5.12** and **Table 5.13**. Results for filtered and unfiltered concentrations are provided. Contaminants found to be below the laboratory Practical Quantitation Levels (PQLs) and below the waste classification screening levels for General Solid Waste (TCLP1) have been discounted from the summary table. The full set of monolith eluate analyses are provided in **Appendix E, Tables E1, E2** and **E3**.

Table 5.12 Monolith contaminant concentrations in eluates T01 to T09 – treated, lime at 50%

Treated - 50% Lime	Analyte	Benzo(a)pyrene (unfiltered)	Benzo(a)pyrene (filtered)	Total +ve PAH's (unfiltered)	Total +ve PAH's (filtered)	Total Cyanide (unfiltered)	Total Cyanide (filtered)	Fluoride (unfiltered)	Fluoride (filtered)
Eluate	Unit	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L
	No. of samples	6	6	6	6	6	6	6	6
T01	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.092	0.09	15	14
	Max	-	-	5.7	-	0.63	0.62	61	60
	No. above GL	0	0	0	0	0	0	0	0
T02	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.06	0.057	12	12
	Max	-	-	12	-	0.49	0.48	46	44
	No. above GL	0	0	0	0	0	0	0	0
T03	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.025	0.025	5.3	5.3
	Max	-	-	9.6	-	0.28	0.27	20	20
	No. above GL	0	0	0	0	0	0	0	0
T04	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.044	0.053	7.1	7.3
	Max	-	-	15	1.7	0.69	0.79	18	21
	No. above GL	0	0	0	0	0	0	0	0
T05	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.031	0.029	5.9	5.7

	Max	-	-	16	1	0.46	0.47	13	13
	No. above GL	0	0	0	0	0	0	0	0
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.017	0.015	4.7	4.7
T06	**Max**	-	-	31	2.3	0.16	0.16	8.2	8
	No. above GL	0	0	0	0	0	0	0	0
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.007	0.007	4.1	3.9
T07	**Max**	-	-	8.6	3.3	0.05	0.04	5.2	5.3
	No. above GL	0	0	0	0	0	0	0	0
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.004	0.004	2.7	2.9
T08	**Max**	-	-	21	2.5	0.01	0.009	4.8	27
	No. above GL	0	0	0	0	0	0	0	0
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.004	0.007	2.6	2.6
T09	**Max**	-	-	19	2.2	0.011	0.011	3.9	4
	No. above GL	0	0	0	0	0	0	0	0

Table 5.13 Monolith contaminant concentrations in eluates T01 to T09 – treated, cement at 30%

Treated - 30% Cement	**Analyte**	**Benzo(a)pyrene (unfiltered)**	**Benzo(a)pyrene (filtered)**	**Total +ve PAH's (unfiltered)**	**Total +ve PAH's (filtered)**	**Total Cyanide (unfiltered)**	**Total Cyanide (filtered)**	**Fluoride (unfiltered)**	**Fluoride (filtered)**
	Unit	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L
Eluate	**No. of samples**	5	5	5	5	5	5	5	5
	Min	<1	<1	NIL (+)VE	NIL (+)VE	1.2	1.4	110	100
T01	**Max**	-	-	9.8	-	6.4	6.1	**160**	**160**
	No. above GL	0	0	0	0	0	0	1	1
	Min	<1	<1	NIL (+)VE	NIL (+)VE	1.5	1.6	100	100
T02	**Max**	-	-	12	-	4.7	4.7	**170**	**170**
	No. above GL	0	0	0	0	0	0	1	1
T03	**Min**	<1	<1	NIL (+)VE	NIL (+)VE	1	1.1	77	75

	Max	-	-	13	-	3	3	150	150
	No. above GL	0	0	0	0	0	0	0	0
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.84	2	66	130
T04	**Max**	-	-	20	-	5.7	5.5	**360**	**300**
	No. above GL	0	0	0	0	0	0	4	4
	Min	<1	<1	NIL (+)VE	NIL (+)VE	1.7	1.6	74	66
T05	**Max**	-	-	31	-	4.8	4.5	**340**	**300**
	No. above GL	0	0	0	0	0	0	4	4
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.89	0.89	37	38
T06	**Max**	-	-	19	-	1.8	1.8	**270**	**270**
	No. above GL	0	0	0	0	0	0	2	2
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.24	0.24	31	33
T07	**Max**	-	-	23	8.5	0.48	0.47	150	140
	No. above GL	0	0	0	0	0	0	0	0
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.028	0.028	12	12
T08	**Max**	-	-	19	4.8	0.1	0.11	56	55
	No. above GL	0	0	0	0	0	0	0	0
	Min	<1	<1	NIL (+)VE	NIL (+)VE	0.03	0.029	13	14
T09	**Max**	-	-	17	1.3	0.08	0.08	55	55
	No. above GL	0	0	0	0	0	0	0	0

5.3.4 Additional Studies

Samples of Run of Station (ROS) and Fine Graded (FG) fly ash were provided from Bayswater and Eraring Power Stations. Subsamples from each of these were analysed for the full suite of analytes prior to being used as a treatment reagent to confirm that concentrations of the contaminants of concern were not elevated in the fly ash. No exceedances were detected and most of the analytes were below or close to the PQLs. The results of the fly ash sample analyses are provided in **Tables D3** and **D4** of **Appendix D**.

6. DISCUSSION

6.1 Evaluation of material variability

Variability of the CWS waste material sampled and used in the treatment study was considered in terms size. The size fractions analysed, namely, unsorted bulk sample material, sample materials less than 125mm, and sample materials greater than 125mm, showed little variability in terms of total fluoride (refer to **Figure 6.1**). One outlying concentration of 405,498 mg/kg of total fluoride was observed in one of the samples of material greater than 125mm.

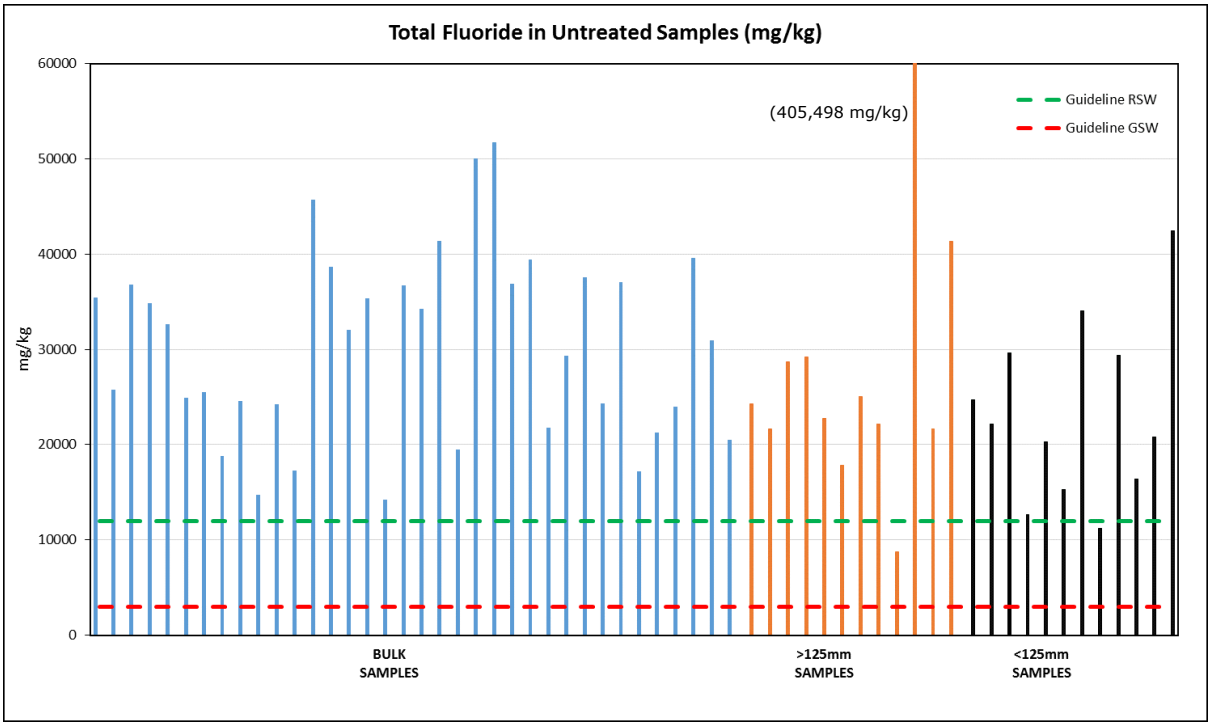


Figure 6.1 Total fluoride concentrations in untreated CWS waste samples

Samples of greater than 125mm in size did demonstrate lower concentrations of benzo(a)pyrene and total polycyclic aromatic hydrocarbons, in comparison to the smaller fractions. There were however, still exceedances in benzo(a)pyrene and polycyclic aromatic hydrocarbons for all of the size fractions under the waste classification guidelines (Categories 1 and 2). These results are graphically illustrated in **Figure 6.2** and **Figure 6.3.**

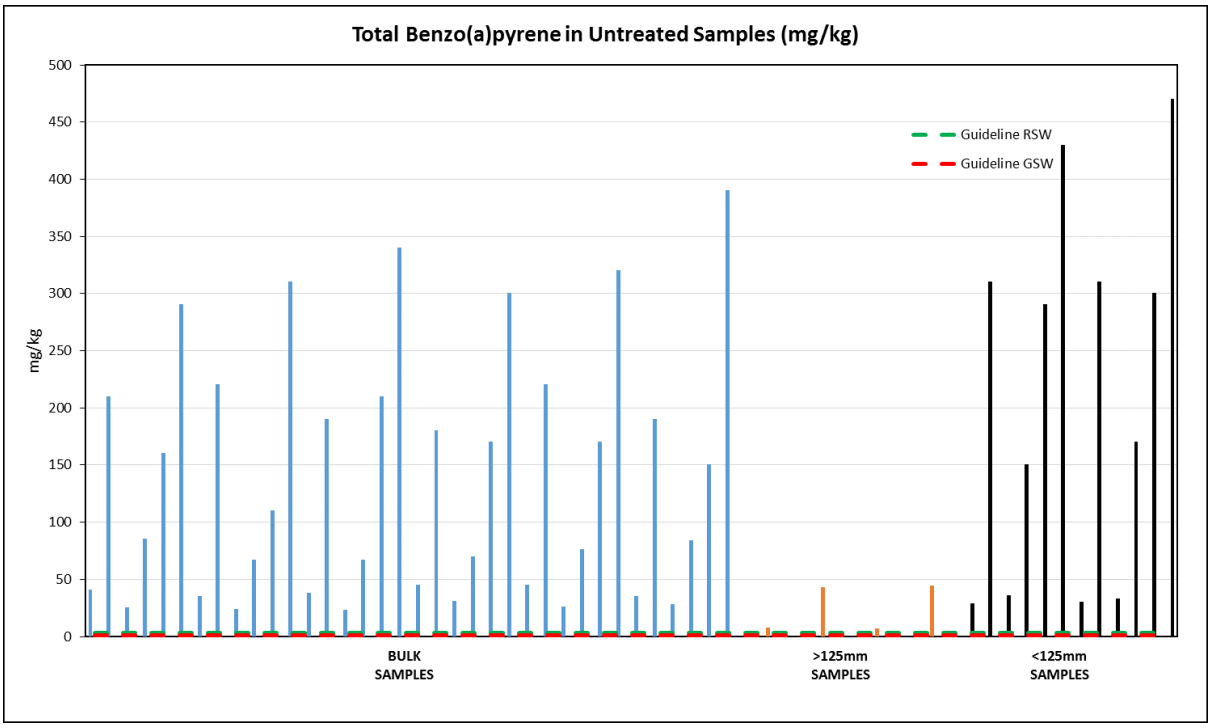


Figure 6.2 Total benzo(a)pyrene in untreated CWS waste samples

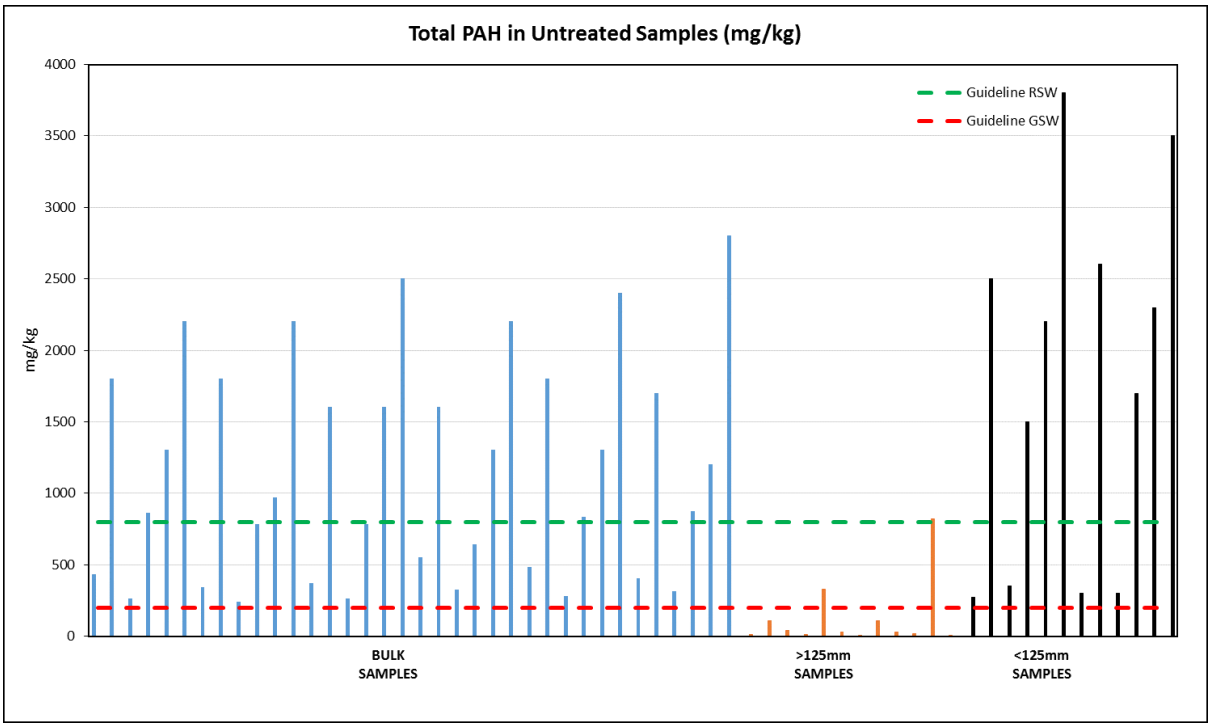


Figure 6.3 Total polycyclic aromatic hydrocarbons in untreated CWS waste samples

Concentrations of metal analytes too were lower for samples greater than 125mm in comparison with the smaller sample fractions, with only one exceedance for nickel. Variability in contaminant concentrations for the larger size fraction (greater than 125mm) has been noted, considering that the greater than 125mm samples are used as a basis to compare untreated material with treated material in the monolith testing. Since the concentrations in the large fraction (greater than 125mm) are generally lower in the case of PAHs, comparison of monolith and the evaluation of the performance of treated monoliths for PAH is therefore conservative, as treated monoliths were formed using crushed unsorted waste material from the bulk samples. The primary subject of the treatment study however is the reduction in leachable fluoride and cyanide concentrations.

Little variation was noted for concentrations of leachable cyanide (refer to **Figure 6.4**) and leachable fluoride (refer to **Figure 6.5**). Samples greater than 125mm demonstrated lower concentrations of leachable polycyclic aromatic hydrocarbons (refer to **Figure 6.6**). Chemical Control Order guideline exceedances were observed for leachable fluoride for samples in all size fractions, however the highest concentrations were observed for larger fraction samples greater than 125mm (2102.8 mg/L and 1833.7 mg/L). This observation most likely reflects that the two samples are of spent pot lining whereas the <125mm and crushed bulk sample are a mixture of spent pot lining and other wastes. Monolith leach results for untreated samples reported lower results, with most concentrations below 100 mg/L and the average of the highest concentrations from each sample of 240 mg/L. **Figure 6.7** illustrates the nine eluates collected over time from each monolith bath.

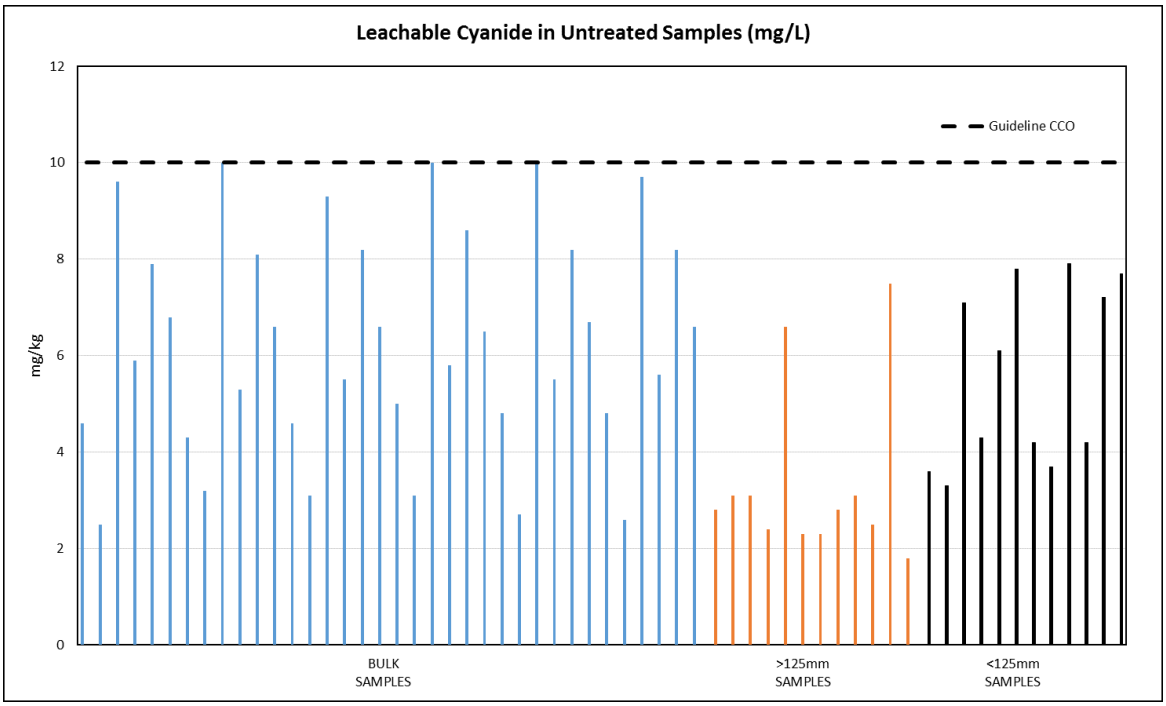


Figure 6.4 Leachable cyanide concentrations by ASLP in untreated CWS waste

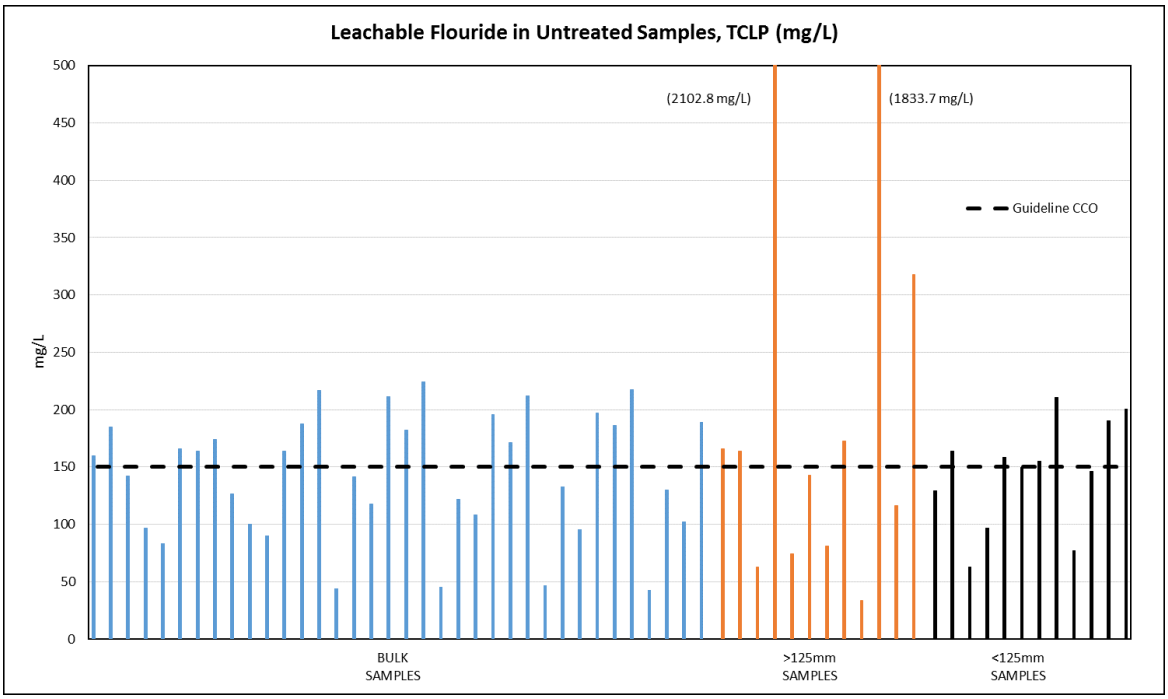


Figure 6.5 Leachable fluoride concentrations by TCLP in untreated CWS waste

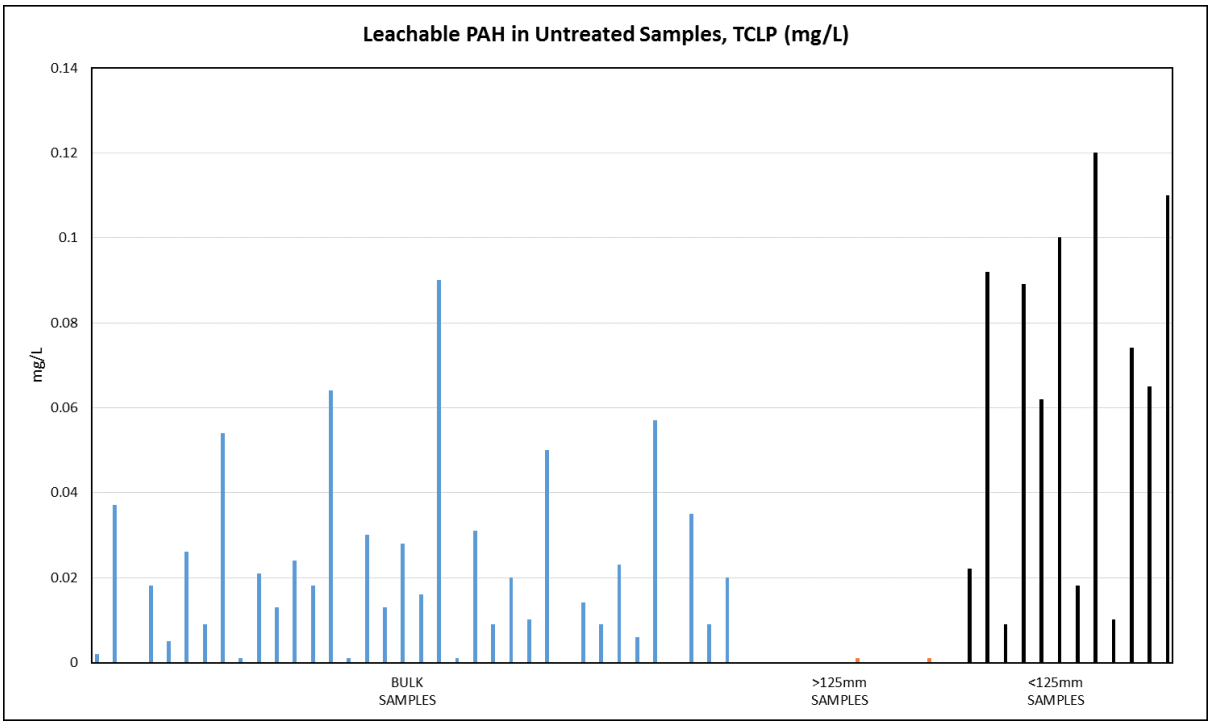


Figure 6.6 Leachable polycyclic aromatic hydrocarbon concentrations by TCLP in untreated CWS waste

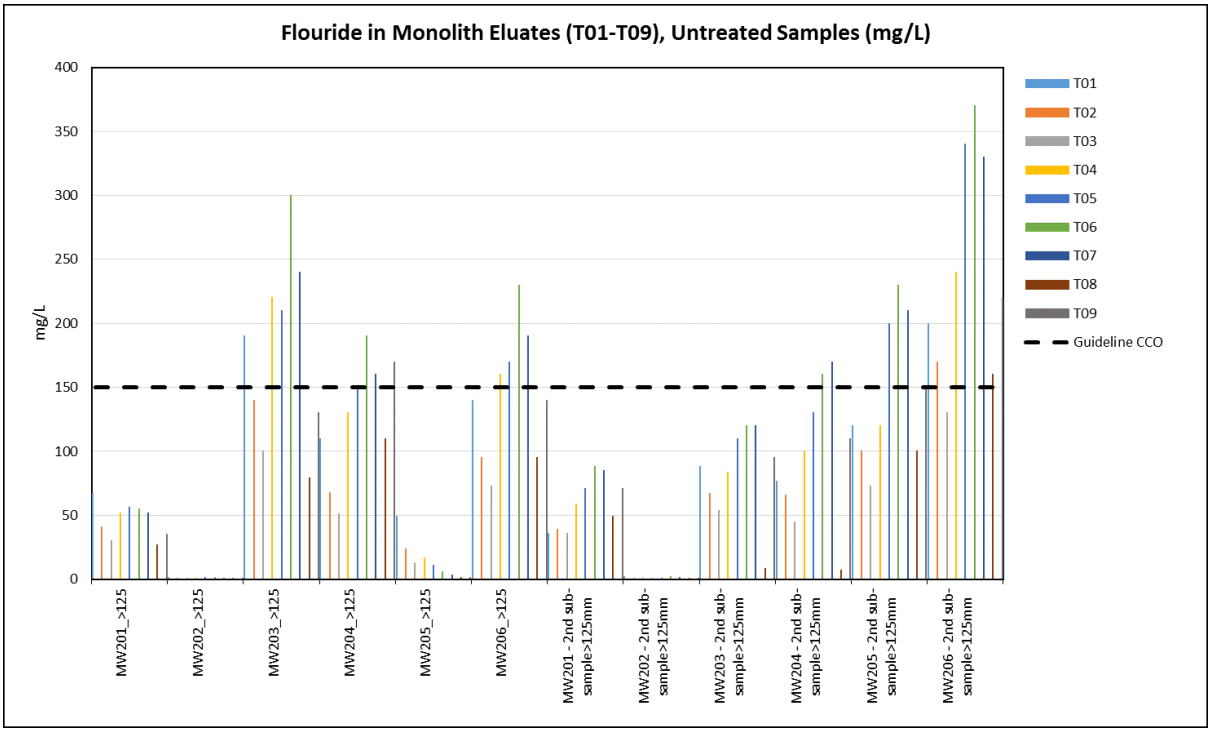


Figure 6.7 Fluoride in eluates (filtered) from untreated CWS waste monolith samples (>125mm)

6.2 Waste classification

Concentrations of benzo(a)pyrene, total polycyclic aromatic hydrocarbons, arsenic, lead, nickel, total fluoride and leachable fluoride all found to have exceedances for the untreated CWS waste material when compared to NSW EPA waste classification guidelines and the Chemical Control Order for cyanide and fluoride. 32 samples out of the 79 untreated samples (inclusive of samples collected in 2015) were identified to contain asbestos. All other analytes included in the employed laboratory testing suite were found to be below the applicable guidelines. Many of the analytes were below the laboratory PQLs including: Benzene, Toluene, Ethylbenzene, Xylenes, Organochlorine Pesticides, Organophosphate Pesticides, Phenols, Polychlorinated Biphenyls, Mercury.

6.3 Treatment studies

Application of the chosen reagents (lime, calcium chloride, cement) was carried out on both a dry (Treatment Study 1) and wet (Treatment Study 2) basis. Testing of the initial resultant mixtures, comprising lime at 50%, calcium chloride at 50% and cement at 30%, showed no change in the waste classification of the material for contaminants in comparison with the untreated material. There were, however, reductions in concentrations observed, likely to be attributed to the dilution effect of adding the reagent. Reductions in concentrations of arsenic, lead, and nickel were somewhat consistent with the dilution factor of the reagents. Treated and untreated concentrations of total fluoride, benzo(a)pyrene and total polycyclic aromatic hydrocarbons are shown in comparison in the following **Figure 6.8**, **Figure 6.9** and **Figure 6.10.**

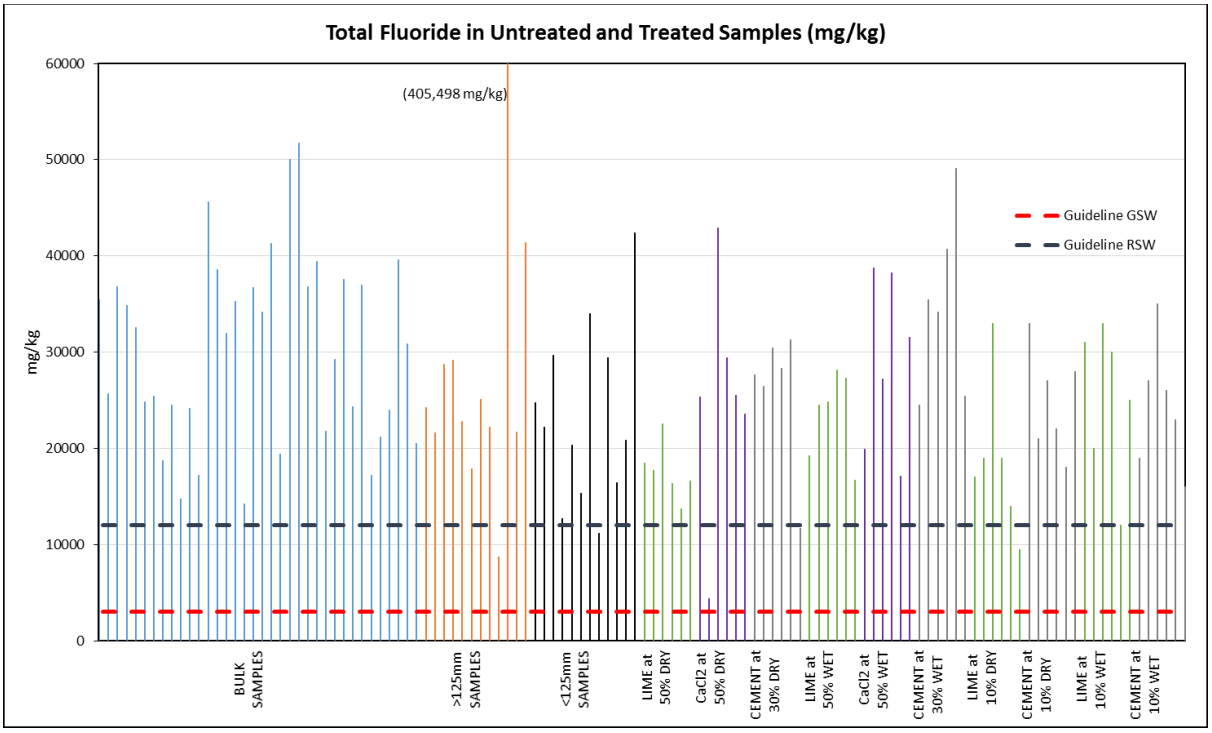


Figure 6.8 Total fluoride concentrations in untreated and treated CWS waste samples

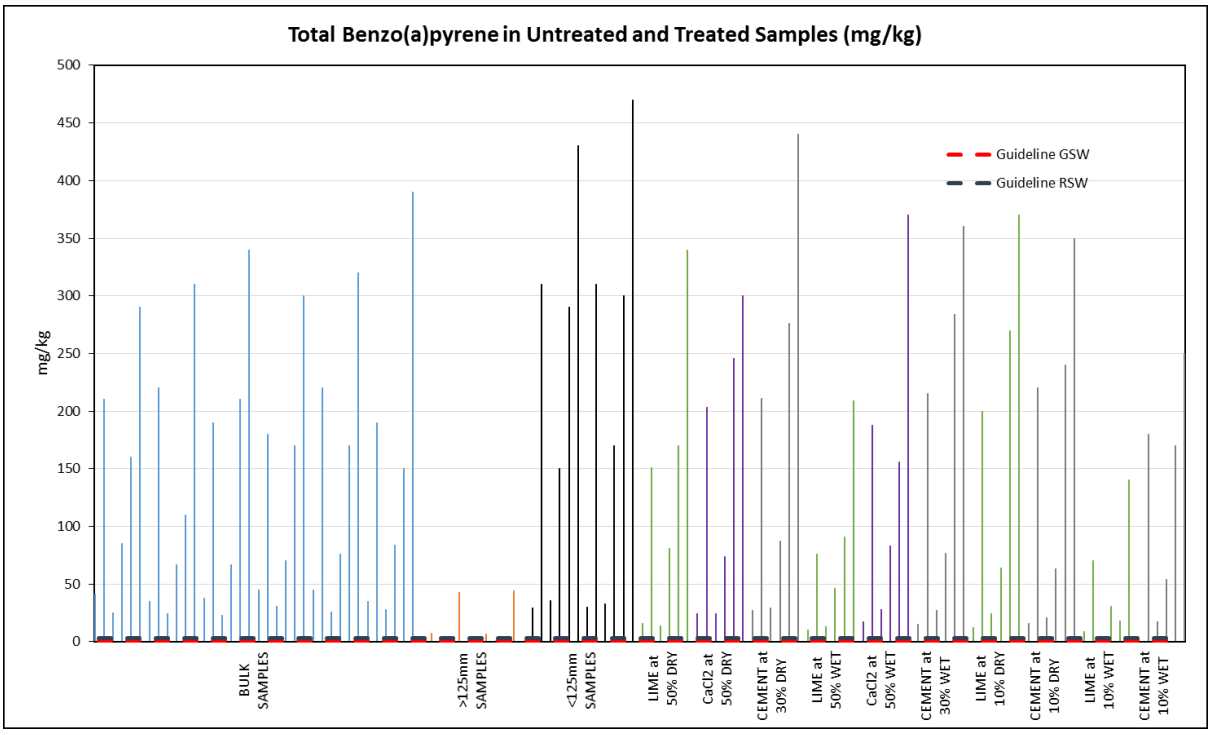


Figure 6.9 Total benzo(a)pyrene concentrations in untreated and treated CWS waste samples

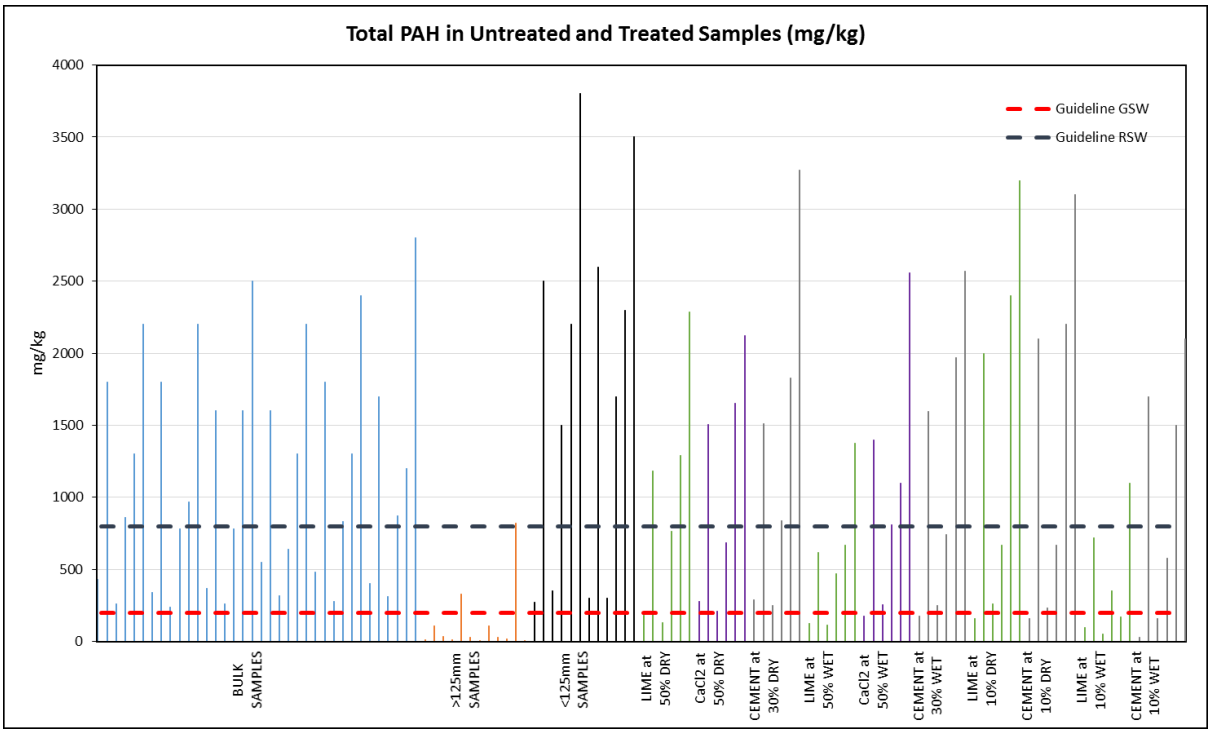


Figure 6.10 Total polycyclic aromatic hydrocarbons concentrations in untreated and treated CWS waste samples

For leachable concentrations, lime at 50% dosage for both wet and dry applications proved to be effective at reducing leachable fluoride levels to well below the Chemical Control Order guidelines of 150 mg/L with an average concentration of 9.1 mg/L (12 samples). Cement at 30% was also effective both wet and dry for reducing the leachable fluoride levels, with an average concentration of 11.7 mg/L (12 samples). Calcium chloride proved to be ineffective at reducing concentrations of any of the contaminants to below the guidelines. Concentrations of all other analytes were not observed to exceed the adopted guidelines, however, there was no apparent

reductions in leachable concentrations of benzo(a)pyrene, polycyclic aromatic hydrocarbons. Reductions in leachable cyanide concentrations were observed for lime (both wet and dry) and calcium chloride (wet) at 50%. The performance of the treatment studies in comparison with untreated material are graphically illustrated in the following figures for leachable concentrations of cyanide (**Figure 6.11**), fluoride (**Figure 6.12**), and total PAHs (**Figure 6.13**).

Secondary treatment applications of lime at 10% and cement at 10% were undertaken on both a dry and wet basis. Total concentrations of contaminants for material treated with 10% lime and cement showed little change (refer to **Figure 6.8** to **Figure 6.10**). Lime, applied dry at 10%, proved to be effective at reducing the leachable fluoride concentrations to below the adopted guidelines with an average resultant concentration of 42.5 mg/L (6 samples, refer to **Figure 6.12**). Lime applied wet as a slurry at 10% however did not have a comparable effect, having an average concentration of 220 mg/L with 5 out of 6 samples exceeding the Chemical Control Order for fluoride. Further study would be required to determine why lime was ineffective at 10% when added as a slurry. Cement at 10% both dry and wet was found to be ineffective at reducing leachable fluoride to below the guideline levels. Nickel concentrations for cement at 10% dry, lime at 10% dry, and lime at 10% wet exceeded Category 2, classifying the material as hazardous waste. Nickel for samples mixed with 10% cement wet exceeded Category 1 of the guidelines. Other Category 1 exceedances for 10% lime and 10% cement included benzo(a)pyrene, total polycyclic aromatic hydrocarbons and lead.

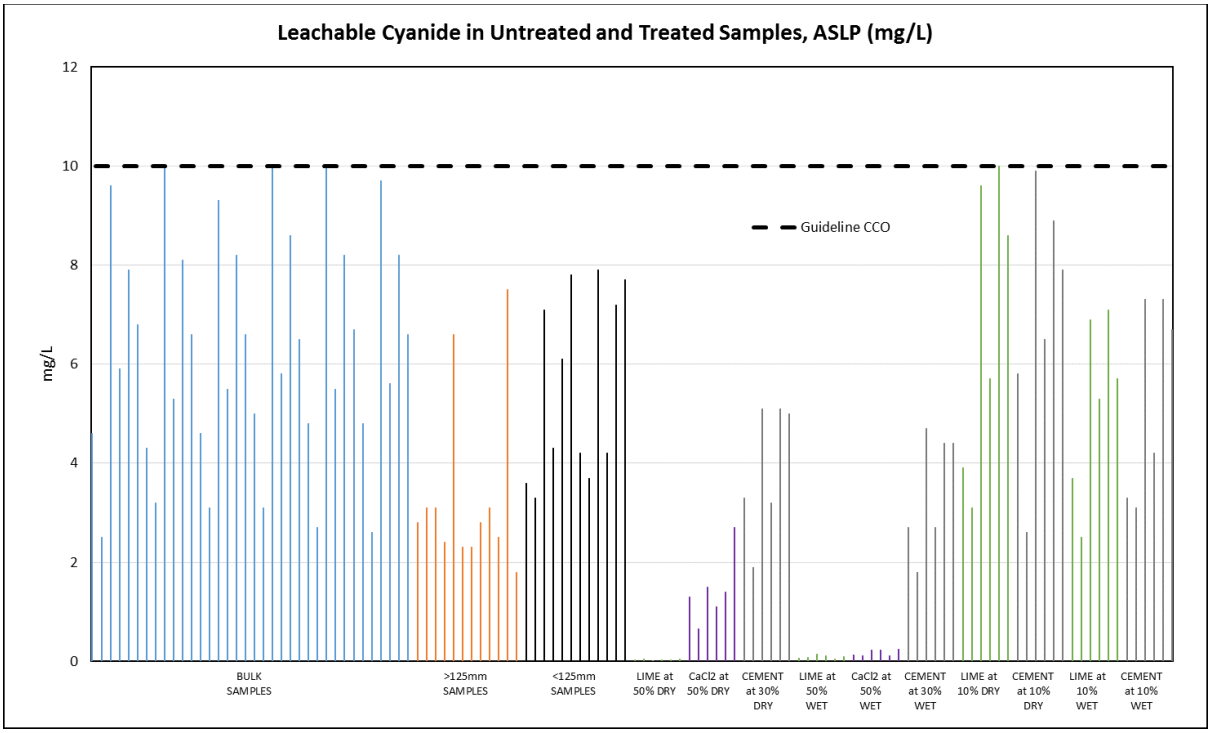


Figure 6.11 Leachable cyanide concentrations in untreated and treated CWS waste samples

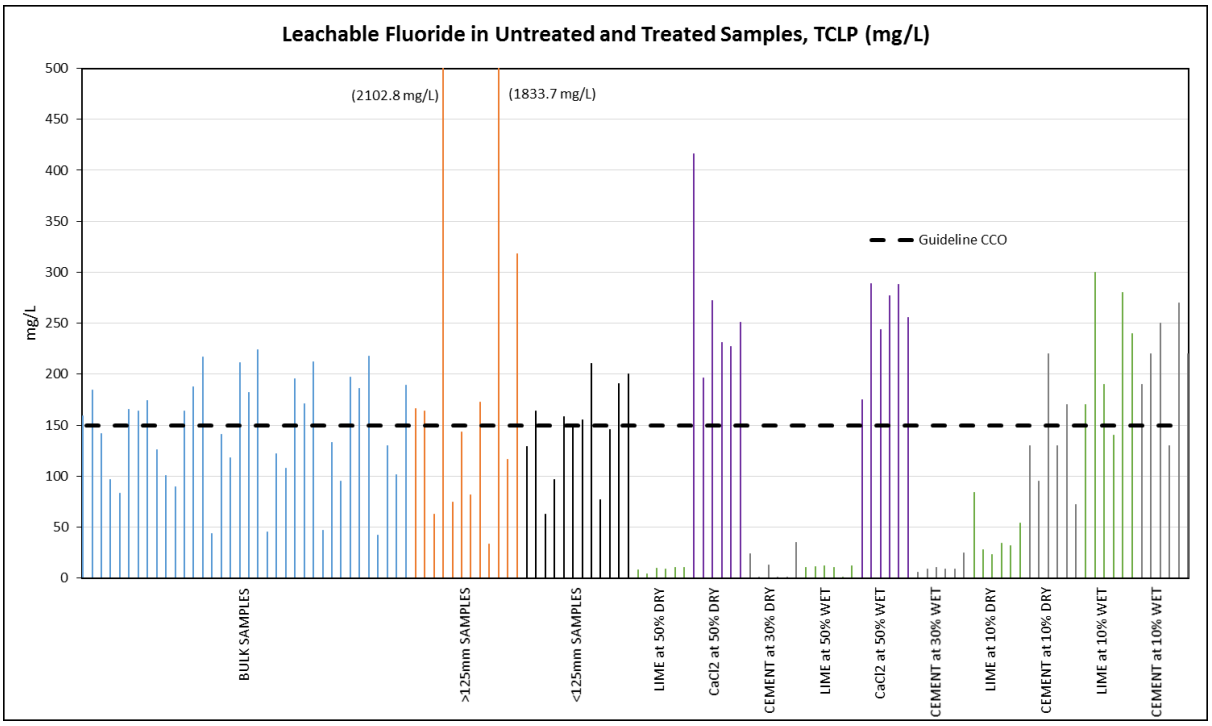


Figure 6.12 Leachable fluoride concentrations in untreated and treated CWS waste samples

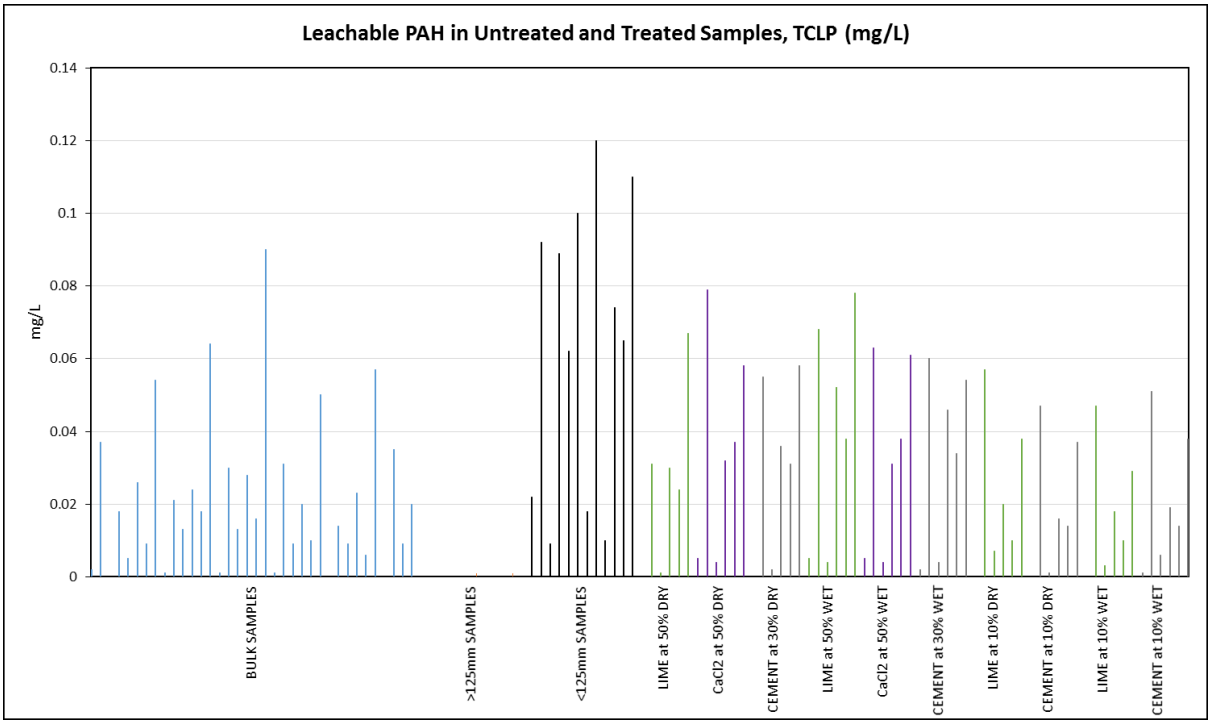


Figure 6.13 Leachable polycyclic aromatic hydrocarbon concentrations in untreated and treated CWS waste samples

6.4 Monolith leach testing

Monolith leach testing was carried out on untreated CWS waste monolith specimens of size fractions greater than 125mm, formed monolith specimens of treated, and cured CWS waste material. Monolith specimen formation failed for crushed CWS waste material mixed with calcium chloride at 50%, due to the resultant mixture not curing sufficiently. One of the monoliths formed

with cement at 30% also failed and was excluded from the trial. Both unfiltered and filtered samples from the extracted eluates were analysed for polycyclic aromatic hydrocarbons, cyanide and fluoride. The results were compared to the waste classification guidelines for maximum values for leachable concentrations and the Chemical Control Order for cyanide and fluoride.

For untreated CWS waste monoliths, no exceedances in cyanide concentrations. One exceedance in TCLP1 was observed for benzo(a)pyrene in the first eluate (T01). Some discrepancy was noted between unfiltered and filtered results for polycyclic aromatic hydrocarbons. Not all untreated samples exceeded the Chemical Control Order guidelines for fluoride in leachate. The concentrations of leachable fluoride in eluates, with respect to the Chemical Control Order guideline, for untreated monolith samples is summarised in Figure 6.14 Untreated monolith eluates (T01-T09) fluoride concentration **Figure 6.14.**

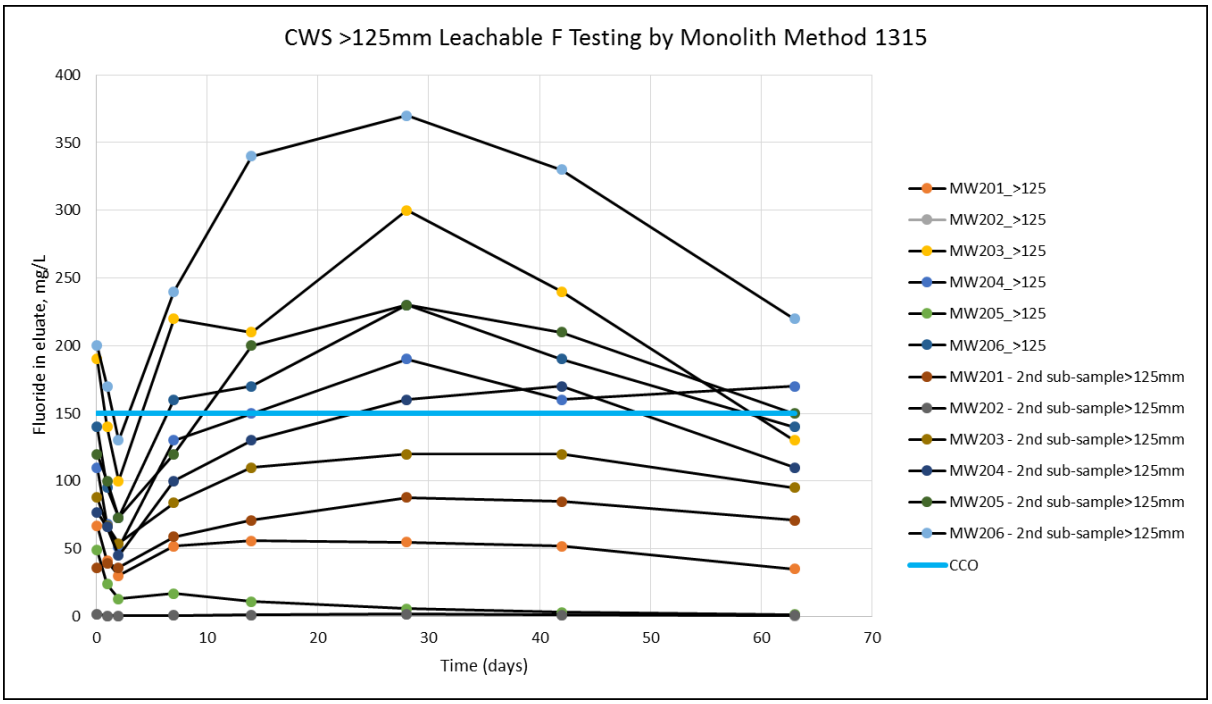


Figure 6.14 Untreated monolith eluates (T01-T09) fluoride concentration

For treated monolith specimens, no exceedances were observed for samples treated with 50% lime for all analytes. Samples treated with 30% cement however demonstrated exceedances for fluoride in leachate in 4 out of 5 samples. No exceedances in leachable fluoride were observed in eluates T07 to T09. All other analytes were below the adopted guidelines. The concentrations of leachable fluoride in eluates, with respect to the Chemical Control Order guideline, for treated monolith samples is summarised in **Figure 6.15**.

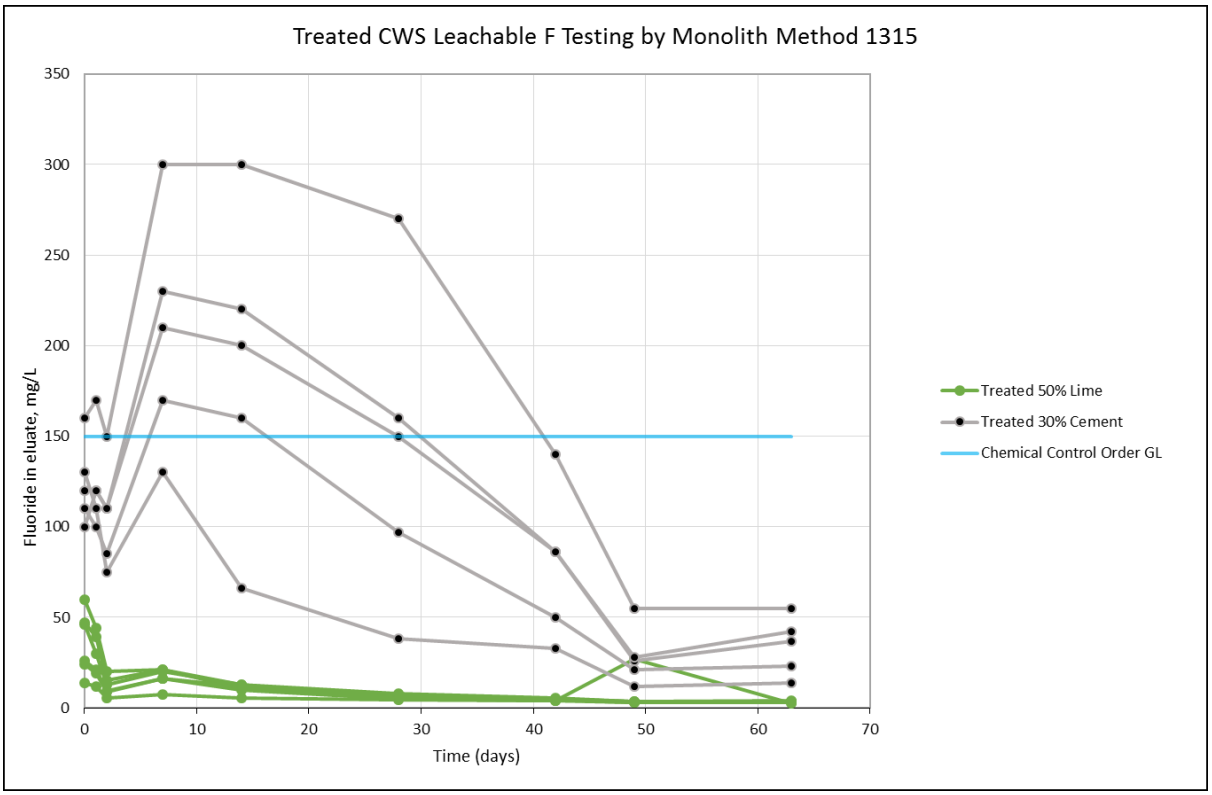


Figure 6.15 Treated monolith eluates (T01-T09) fluoride concentration

As detailed in US EPA (2013) Validated Test Method 1315, the flux of fluoride across the exposed surface area (mg/m^2.s) was calculated for each interval and plotted against the generalised mean of the square root of the cumulative leaching time (in $\log_{10}$-$\log_{10}$ format). This demonstrates the rate at which leaching occurs from the sample for each eluate interval.

The mean interval flux for fluoride for testing of untreated monolith samples is presented in **Figure 6.16.** The magnitude of the flux tends to decrease for subsequent eluates and a large variation in fluoride flux between samples is observed.

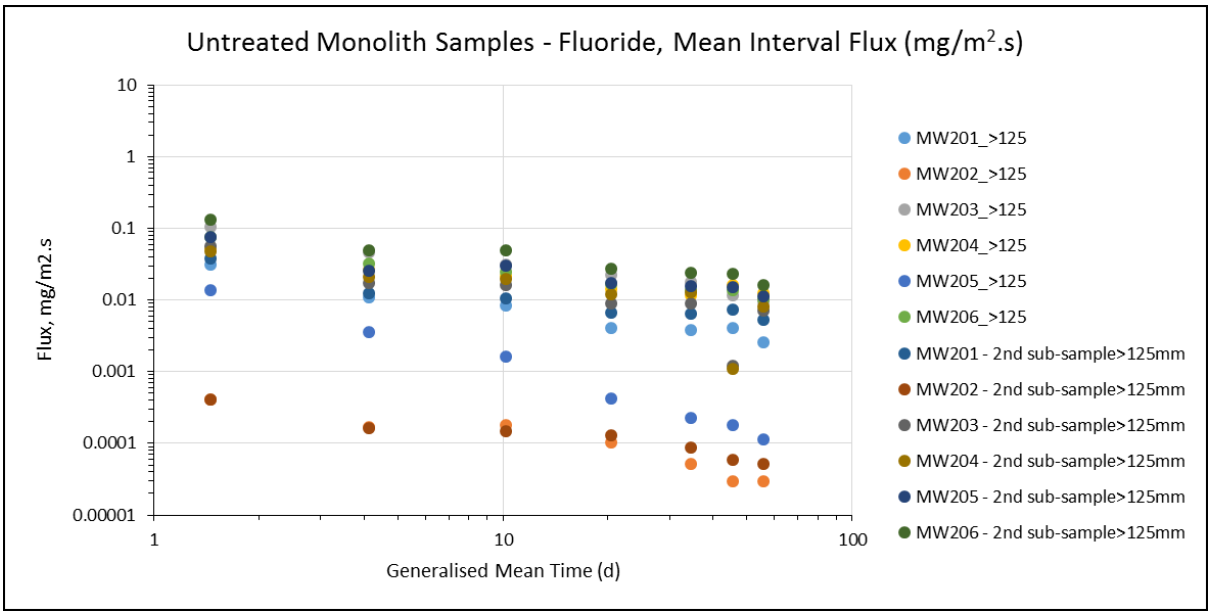


Figure 6.16 Untreated monolith samples, fluoride mean interval flux

The untreated samples, being selected from larger fraction elements of heterogeneous waste material, demonstrated variability in their ratio of mass of the sample to the surface area (g/cm^2). In consideration of this, the relationship between the ratio of the fluoride concentration in eluate to the mass to surface area and the generalised mean leaching time, of untreated monolith samples, is presented in **Figure 6.17.**

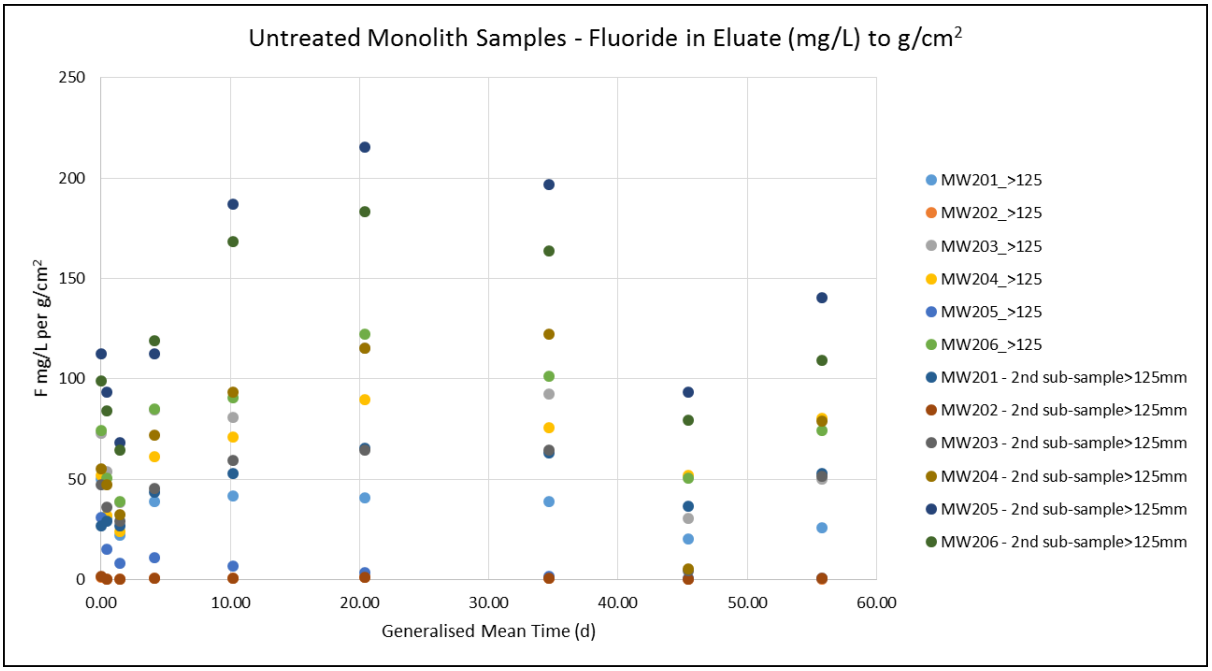


Figure 6.17 Untreated monolith samples fluoride concentration in eluates per g/cm^2

Figure 6.17 is demonstrative of the heterogeneous nature of the untreated monolith samples, as a broad range of fluoride concentrations were observed.

The mean interval flux calculated for fluoride from treated monolith samples is presented in **Figure 6.18** for monolith samples treated with lime, and in **Figure 6.19** for monolith samples treated with cement.

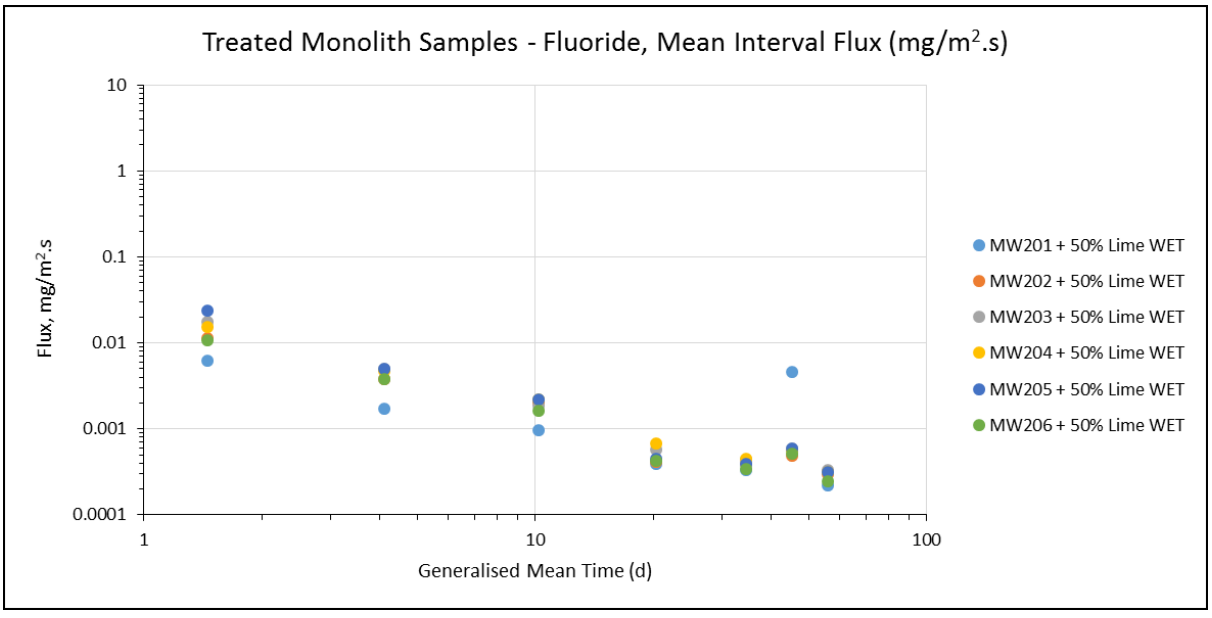


Figure 6.18 Treated monolith samples, lime at 50%, fluoride mean interval flux

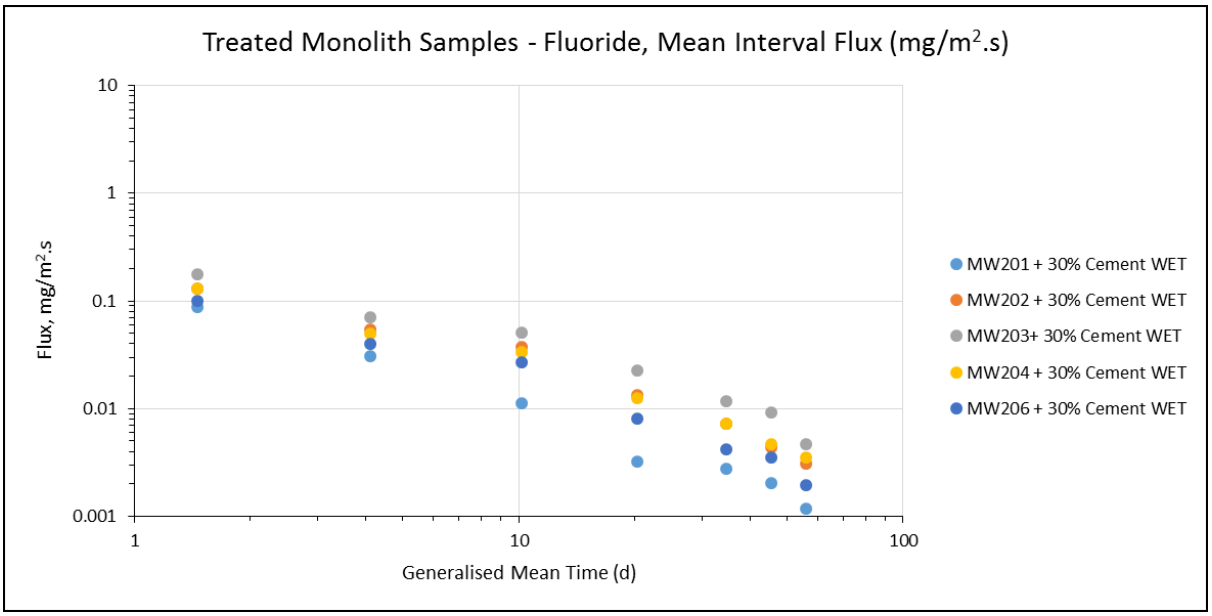


Figure 6.19 Treated monolith samples, cement at 30%, fluoride mean interval flux

7. CONCLUSIONS

The following key findings were made during the variability assessment, treatment studies, and analysis of monolith samples of spent pot lining:

- Methane generation was found to be greatest when lime at 50% was added as a slurry, with measurements over the limit of the gas meter for some samples (>200ppmv), followed by when cement was added as a slurry (maximum methane concentration measured at 41ppmv);
- No methane generation was detected for untreated samples and samples treated with $CaCl_2$;
- Of the 79 samples analysed for asbestos presence (2015 and 2017), 40.5% (32 samples) were identified to contain amosite asbestos,
- Four samples out of 60 were identified to have quantifiable amosite asbestos, with a maximum quantity of 0.4691 g/kg;
- The samples of CWS waste collected from the drill core did not exceed the guidelines for total, free or leachable cyanide;
- The untreated samples showed little variability in fluoride concentrations, however some significantly elevated concentrations were measured in samples greater than 125mm;
- Untreated larger fraction samples (greater than 125mm) demonstrated lower concentrations of PAHs (including benzo(a)pyrene);
- Leachable benzo(a)pyrene by TCLP was found to be well below the TCLP1 guideline for all untreated and treated samples;
- The CWS waste sampled is classified as Hazardous Special Waste Asbestos due to elevated concentrations of total PAH and the presence of asbestos;
- The untreated CWS waste was also found to exceed the NSW EPA Chemical Control Order for leachable fluoride;
- Samples of CWS waste tested for OECD Dangerous Goods Class 4.3 were found to produce no gas, including flammable gas, following contact with water over the duration of the test;
- CWS waste treated with lime at 50% was effective at reducing leachable fluoride levels to below the Chemical Control Order for fluoride;
- CWS waste treated with lime at 10% was effective at reducing leachable fluoride levels to below the Chemical Control Order for fluoride, when mixed with the waste on a dry basis but not when added as a slurry. Based on the testing completed to date it is unclear why the wet slurry was ineffective. Further analysis would be required;
- CWS waste treated with cement at 30% was effective at reducing leachable fluoride levels to bellow the Chemical Control Order for fluoride;
- CWS treated with calcium chloride at 50% was ineffective at reducing concentrations of any of the contaminants to below the guidelines;
- CWS waste treated with calcium chloride at 50% (wet) and lime at 50% (dry and wet) demonstrated reductions in leachable cyanide concentrations, however untreated leachable cyanide was below the adopted guidelines for all samples;
- Eluate samples from CWS waste treated with lime at 50% did not exceed the guidelines for any of the analytes;
- Eluate samples from CWS waste treated with cement at 30% exceeded the Chemical Control Order guidelines for leachable fluoride in four out of five samples, however no exceedances were recorded for eluates T07 to T09.

8. REFERENCES

NSW EPA 2014, Waste Classification Guidelines – Part 1: Classifying Waste, New South Wales Environmental Protection Agency, November 2014.

Organisation for Economic Cooperation and Development (OECD), 2015, Recommendations on the Transport of Dangerous Goods – Manual of Tests and Criteria Sixth Revised Edition, United Nations Publications, Sales No. E.09 VIII.3.

Ramboll Environ, 2016. Capped Waste Stockpile Assessment, Document Reference AS130456, April 2016

United States Environmental Protection Agency (USEPA), 1992, Method 1311: Toxicity Characteristic Leaching Procedure, part of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Document SW-846, July 1992.

United States Environmental Protection Agency (USEPA), 2013, Validated Test Method 1315: Mass Transfer Rates of Constituents in Monolithic or Compacted Granular Materials Using a Semi-Dynamic Tank Leaching Procedure, Revision 0, January 2013.

9. LIMITATIONS

Ramboll Environ Australia Pty Ltd (Ramboll Environ) prepared this report in accordance with the scope of work as outlined in our proposal to Hydro Aluminium Kurri Kurri Pty Ltd dated 17th January 2017 and in accordance with our understanding and interpretation of current regulatory standards.

A representative program of sampling and laboratory analyses was undertaken as part of this study. While every care has been taken, concentrations of contaminants measured may not be representative of conditions between the locations sampled. We cannot therefore preclude the presence of materials that may be hazardous. This report is based on samples from drill cores recovered at the site in 2015 and Ramboll Environ disclaims responsibility for any changes that may have occurred after this time.

The conclusions presented in this report represent Ramboll Environ's professional judgment based on information made available during the course of this assignment and are true and correct to the best of Ramboll Environ's knowledge as at the date of the assessment.

Ramboll Environ did not independently verify all of the written or oral information provided to Ramboll Environ during the course of this investigation. While Ramboll Environ has no reason to doubt the accuracy of the information provided to it, the report is complete and accurate only to the extent that the information provided to Ramboll Environ was itself complete and accurate.

This report does not purport to give legal advice. This advice can only be given by qualified legal advisors.

9.1 User Reliance

This report has been prepared exclusively for Hydro Aluminium Kurri Kurri Pty Ltd and their legal representatives and may not be relied upon by any other person or entity without Ramboll Environ's express written permission.

APPENDIX A
WASTE CLASSIFICATION RESULTS

Table A1: Untreated CWS Material Waste Classification SCC, CT1 and CT2

| Contaminant | Units | LOR | Maximum values of specific contaminant concentration (SCC) for classification without TCLP (CT1 and CT2) | | BULK SAMPLES | | |

Table A2: Untreated CWS Material Waste Classification, TCLP1 and TCLP2

Contaminant	Unit	LOR	Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)		Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)		Chemical Control Order mg/L	BULK SAMPLES																													
			Leachable (TCLP1) mg/L	Specific contaminant concentration (SCC1)	Leachable (TCLP2) mg/L	Specific contaminant concentration (SCC2)		MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample	MW206 - BULK 1st sub-sample	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
pH of soil for fluid# determ.	pH units							8.5	8.5	10.3	9.6	9.4	8.7	8.7	8.7	10	9.8	9.6	8.9	8.9	9.1	10.3	9.6	9.6	9	8.9	8.9	10.2	9.5	9.4	9	8.9	8.9	10.1	9.6	9.3	9.1	8.9	9	10.1	9.7	9.4	9
pH of soil TCLP (after HCl)	pH units							1.7	1.7	3.1	2.2	1.9	1.8	1.7	1.7	3.3	2.1	1.9	1.8	1.9	1.9	3.4	2.2	2.1	1.9	1.9	1.9	3.7	2.3	2.1	2	1.9	1.9	4.2	2.2	2	2	1.9	2	4.4	2.8	2	2.1
Extraction fluid used	-							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
pH of final Leachate	pH units							5.7	5.8	7.8	6.4	6	5.7	5.7	6.8	6.3	6	5.8	5.4	5.5	7	5.9	5.7	5.5	5.4	5.5	6.7	6	5.8	5.6	5.4	5.6	7	6	5.9	5.6	5.5	5.6	7	6	5.8	5.6
Naphthalene in TCLP	mg/L	0.001						<0.001	0.021	<0.001	0.002	<0.001	0.001	<0.001	0.031	<0.001	0.002	<0.001	0.001	<0.001	0.039	<0.001	0.002	<0.001	0.001	<0.001	0.039	<0.001	0.002	<0.001	0.001	<0.001	0.029	<0.001	0.002	<0.001	0.001	<0.001	0.027	<0.001	0.002	<0.001	0.001
Naphthalene	mg/kg	0.1						<1	7.7	1.3	3	1.7	1.8	0.6	8	1.2	2.5	1.3	1.9	0.4	7.6	1.7	2.3	1.4	1.9	<1	8.5	1.8	3.1	1.2	2	0.3	7	1.9	2.4	1.5	2.4	1.3	6.9	1.7	2.3	1.4	2
Acenaphthylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthylene	mg/kg	0.1						<1	1	<1	1.7	<1	<1	0.2	<1	0.2	1.6	<1	<1	0.2	2.1	0.1	1.1	1.4	1.1	<1	<1	<1	1.6	1.1	<1	0.2	1.5	0.2	1.1	1.4	<1	<1	<1	2.1	<1	1.1
Acenaphthene in TCLP	mg/L	0.001						<0.001	0.006	<0.001	0.002	<0.001	0.002	0.001	0.011	<0.001	0.002	0.001	0.002	0.001	0.015	<0.001	0.003	0.001	0.002	<0.001	0.016	<0.001	0.003	<0.001	0.001	0.001	0.01	<0.001	0.002	0.001	0.002	<0.001	0.009	<0.001	0.002	0.001	0.001
Acenaphthene	mg/kg	0.1						2.7	27	4.2	9.2	5	15	2	28	3.7	8.6	4.7	16	1.9	29	4.2	9.1	5.9	16	2.3	28	5.2	10	4.8	16	2.3	26	5	9.1	5.6	17	1.8	27	4.6	9.4	6.1	18
Fluorene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fluorene	mg/kg	0.1						1.3	10	1.4	4.3	4	7.3	1.1	11	1.3	4.4	3.4	8.5	0.9	11	1.7	4.6	4.7	8.6	1.4	9.4	2.3	5.3	4	8.1	1.1	10	2.4	4.5	4.4	9.5	1.1	10	1.9	4.6	4.4	9.7
Phenanthrene in TCLP	mg/L	0.001						<0.001	0.006	<0.001	0.006	0.002	0.008	0.002	0.007	<0.001	0.007	0.004	0.008	0.002	0.007	<0.001	0.008	0.004	0.008	0.002	0.009	<0.001	0.009	0.003	0.007	0.002	0.007	<0.001	0.006	0.003	0.007	0.001	0.007	<0.001	0.008	0.003	0.007
Phenanthrene	mg/kg	0.1						17	120	16	79	51	98	14	120	17	77	44	100	12	120	21	81	58	110	18	110	26	69	51	100	14	120	24	81	53	120	13	120	22	80	52	120
Anthracene in TCLP	mg/L	0.001						<0.001	0.001	<0.001	<0.001	<0.001	0.003	<0.001	0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.001	0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.002	<0.001	<0.001	<0.001	0.001	<0.001	0.002
Anthracene	mg/kg	0.1						5.9	28	5.8	15	14	28	3.8	29	4.3	12	13	32	3	30	5.5	13	17	34	4.2	27	6.1	16	18	33	3.3	29	5.8	14	16	34	3.6	29	6.6	16	17	35
Fluoranthene in TCLP	mg/L	0.001						0.001	0.001	<0.001	0.003	0.002	0.005	0.003	0.002	<0.001	0.004	0.004	0.005	0.005	0.002	<0.001	0.005	0.004	0.006	0.004	0.004	<0.001	0.005	0.003	0.005	0.003	0.002	<0.001	0.003	0.003	0.005	0.002	0.003	<0.001	0.006	0.003	0.005
Fluoranthene	mg/kg	0.1						52	240	43	140	140	230	45	240	40	130	110	240	47	220	47	130	170	260	89	210	55	71	140	230	57	240	49	140	140	250	51	230	54	140	130	290
Pyrene in TCLP	mg/L	0.001						0.001	0.001	<0.001	0.002	0.001	0.004	0.002	0.002	<0.001	0.003	0.003	0.004	0.005	0.001	<0.001	0.004	0.003	0.005	0.004	0.004	<0.001	0.004	0.003	0.004	0.003	0.001	<0.001	0.002	0.002	0.004	0.002	0.003	<0.001	0.005	0.002	0.004
Pyrene	mg/kg	0.1						52	230	41	130	130	210	42	230	37	110	100	220	45	210	45	120	160	240	85	200	51	69	130	210	56	230	45	120	130	230	49	210	50	120	130	260
Benzo(a)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(a)anthracene	mg/kg	0.1						46	190	27	91	160	250	34	200	23	72	110	260	40	190	22	73	210	300	62	160	31	69	170	250	54	210	82	170	270	45	180	34	96	140	230	350
Chrysene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chrysene	mg/kg	0.1						51	150	21	73	120	210	38	150	20	78	110	220	41	120	22	75	150	240	69	150	25	60	130	220	61	150	24	78	130	240	49	150	24	71	130	250
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002						<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	0.002	<0.002	<0.002	0.002	0.004	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002
Benzo(bjk)fluoranthene	mg/kg	0.2						100	320	45	150	300	460	75	340	41	130	230	500	83	290	42	130	380	560	120	290	52	110	310	500	120	330	46	140	320	530	100	300	50	140	280	620
Benzo(a)pyrene in TCLP	mg/L	0.001	0.04		0.16			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(a)pyrene	mg/kg	0.05		10		23		41	210	25	85	160	290	35	220	24	67	110	310	38	190	23	67	210	340	45	180	31	70	170	300	45	220	26	76	170	320	35	190	28	84	150	390
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1						22	95	11	38	73	140	21	98	11	34	58	130	22	82	11	29	90	160	22	83	14	34	81	140	25	100	12	35	77	140	19	88	13	39	69	190
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/kg	0.1						6	24	3	10	24	61	7.9	27	2.9	13	18	62	8.2	19	3.3	11	35	54	8.3	24	3.7	13	31	62	9.9	28	4.4	13	27	66	7.3	25	3.6	11	29	80
Benzo(g,h,i)perylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene	mg/kg	0.1						26	100	14	42	78	140	23	110	13	37	60	140	24	91	13	32	98	160	25	91	16	37	87	140	28	110	14	37	84	150	21	97	15	43	72	190
Total +ve PAH in TCLP	mg/L							0.002	0.037	NIL (+)VE	0.018	0.005	0.026	0.009	0.054	0.001	0.021	0.013	0.024	0.018	0.064	0.001	0.03	0.013	0.028	0.016	0.09	0.001	0.031	0.009	0.02	0.01	0.05	NIL (+)VE	0.014	0.009	0.023	0.006	0.057	NIL (+)VE	0.035	0.009	0.02	
Total +ve PAH	mg/kg	0.5		200		800		430	1800	260	860	1300	2200	340	1800	240	780	970	2200	370	1600	260	780	1600	2500	550	1600	320	640	1300	2200	480	1800	280	830	1300	2400	400	1700	310	870	1200	2800
Arsenic in TCLP	mg/L	0.05	5		20			-	<0.05	-	-	0.08	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-	-	-	-	-	<0.05	<0.05	-	-	-	-	<0.05	-	-	-
Arsenic	mg/kg	4		500		2000		6	120	92	8	39	13	6	100	180	8	67	13	6	43	190	7	40	14	6	180	98	7	39	12	7	280	850	8	38	22	7	55	240	8	62	14
Lead in TCLP	mg/L	0.03	5		20			-	0.41	-	-	<0.03	-	-	0.41	-	-	-	-	-	0.56	-	-	-	-	-	0.3	<0.03	-	-	-	-	0.3	<0.03	-	-	-	-	<0.03	-	-	-
Lead	mg/kg	1		1500		6000		25	490	330	20	210	42	27	500	330	18	310	37	24	540	330	23	200	46	23	630	320	20	190	34	27	640	370	20	190	39	27	610	350	18	210	35
Nickel in TCLP	mg/L		2		8			-	0.09	-	-	0.06	-	-	0.1	-	-	-	-	-	0.1	-	-	-	-	-	0.09	-	-	-	-	-	0.1	0.02	-	-	-	-	0.03	-	-	-
Nickel	mg/kg	1		1050		4200		43	83	49	80	170	85	42	81	44	64	71	96	46	84	38	61	61	85	43	87	34	57	63	76	44	66	65	61	69	77	42	69	37	62	63	95
Tot Cyanide in Neutral Leach (ASLP)	mg/L	0.004	16		64		10	4.6	2.5	9.6	5.9	7.9	6.8	4.3	3.2	10	5.3	8.1	6.6	4.6	3.1	9.3	5.5	8.2	6.6	5	3.1	10	5.8	8.6	6.5	4.8	2.7	10	5.5	8.2	6.7	4.8	2.6	9.7	5.6	8.2	6.6
Total Cyanide	mg/kg	0.5		5900		23600		110	120	220	110	200	140	110	61	190	130	190	120	110	82	210	110	250	160	110	95	210	120	210	150	110	76	270	110	220	150	120	130	200	120	220	150
Fluoride in TCLP	mg/L	0.1	150		600		150	159.5	184.6	142	96.5	83.4	165.6	163.6	174	126.3	100.4	89.8	163.9	187.3	217	43.6	141.3	117.8	211.2	182.2	224.3	45.1	121.8	108	195.8	171.1	211.8	46.6	132.9	95.4	197.3	186.1	217.7	42.3	129.7	101.8	189
Total Fluoride	mg/kg	50		10000		40000		35411	25702	36790	34822	32566	24834	25423	18756	24494	14696	24182	17227	45624	38615	31990	35282	14200	36700	34200	41300	19400	50000	51700	36800	39384	21756	29268	37526	24302	36971	17176	21200	23945	39575	30872	20494

Table A2: Untreated CWS Material Waste Classification, TCLP1 and TCLP2

Contaminant	Unit	LOR	Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)		Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)		Chemical Control Order mg/L	>125mm SAMPLES										<125mm SAMPLES									
			Leachable (TCLP1) mg/L	Specific contaminant concentration (SCC1)	Leachable (TCLP2) mg/L	Specific contaminant concentration (SCC2)		MW201 - 1st sub-sample>1 25mm	MW202 - 1st sub-sample>1 25mm	MW203 - 1st sub-sample>1 25mm	MW204 - 1st sub-sample>1 25mm	MW205 - 1st sub-sample>1 25mm	MW206 - 1st sub-sample>1 25mm	MW201 - 2nd sub-sample>1 25mm	MW202 - 2nd sub-sample>1 25mm	MW203 - 2nd sub-sample>1 25mm	MW204 - 2nd sub-sample>1 25mm	MW205 - 2nd sub-sample>1 25mm	MW206 - 2nd sub-sample>1 25mm	MW201 - 1st sub-sample<1 25mm	MW202 - 1st sub-sample<1 25mm	MW203 - 1st sub-sample<1 25mm	MW204 - 1st sub-sample<1 25mm	MW205 - 1st sub-sample<1 25mm	MW206 - 1st sub-sample<1 25mm	MW201 - 2nd sub-sample<1 25mm	MW202 - 2nd sub-sample<1 25mm	MW203 - 2nd sub-sample<1 25mm	MW204 - 2nd sub-sample<1 25mm	MW205 - 2nd sub-sample<1 25mm	MW206 - 2nd sub-sample<1 25mm
pH of soil for fluid# determ.	pH units							8.7	7.7	9.9	10.7	9.5	9.7	8.7	7.8	10	10.8	9.7	9.9	9.3	9	9.9	9.6	9	9	9.4	9.3	10.1	9.8	9.1	9.3
pH of soil TCLP (after HCl)	pH units							1.8	1.7	2.1	4.2	2.1	2.4	1.7	1.8	2	4.4	2.3	2.9	1.8	1.8	2.7	2.1	1.8	1.8	2	2	3.5	2.2	1.9	1.9
Extraction fluid used	-							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
pH of final Leachate	pH units							5.7	5.3	6.8	8.9	6.1	5.6	5.3	5.1	6.2	8.4	5.6	5.2	5.7	5.7	7	6.5	5.8	5.8	5.5	5.5	6.3	5.9	5.5	5.6
Naphthalene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.031	0.003	0.003	0.002	0.002	0.001	0.043	0.003	0.002	0.002	0.002
Naphthalene	mg/kg	0.1						1.2	0.2	0.3	3.2	0.4	1.2	0.5	0.1	0.2	3.4	0.4	0.5	1.4	4	0.8	2.9	4.2	1.7	0.3	3.7	1.1	2.8	3.7	2.2
Acenaphthylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthylene	mg/kg	0.1						<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	0.2	1.3	0.2	3.3	1.7	<1	0.2	1.3	0.2	3.4	1.6	1.1
Acenaphthene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.013	0.001	0.01	0.005	0.007	0.001	0.016	0.002	0.01	0.006	0.008
Acenaphthene	mg/kg	0.1						0.7	3	0.7	2.6	1.7	0.8	0.2	2.7	0.4	2.8	1.8	0.1	1.9	31	3.7	12	11	20	1.9	32	3.9	13	11	20
Fluorene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.002	0.002	0.004	<0.001	0.001	<0.001	0.002	0.002	0.004
Fluorene	mg/kg	0.1						<0.1	1.1	0.1	0.1	0.7	0.3	<0.1	1	<0.1	0.1	0.7	<0.1	1	15	1.4	6.4	8.3	9.8	0.8	16	1.6	7.2	7.9	10
Phenanthrene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.026	0.003	0.038	0.025	0.043	0.003	0.027	0.002	0.032	0.027	0.044
Phenanthrene	mg/kg	0.1						2.3	18	5.4	3.2	13	3.2	0.2	17	4.2	3.7	13	<0.1	14	170	24	120	120	160	13	170	23	140	110	150
Anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.002	<0.001	0.003	0.003	0.008	<0.001	0.002	<0.001	0.004	0.004	0.009
Anthracene	mg/kg	0.1						0.7	5	0.8	0.3	3.4	0.9	<0.1	4.9	0.8	0.5	3.4	<0.1	3.1	33	6.7	25	29	53	3.7	37	5.9	28	27	48
Fluoranthene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.01	0.001	0.016	0.013	0.021	0.004	0.011	0.002	0.013	0.013	0.023
Fluoranthene	mg/kg	0.1						3.3	20	9.9	1.7	33	6.6	0.2	20	7.7	2.1	470	0.1	34	310	60	240	270	450	42	340	41	270	260	360
Pyrene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.008	0.001	0.011	0.009	0.015	0.003	0.009	0.001	0.01	0.009	0.017
Pyrene	mg/kg	0.1						2.9	17	9.1	1.4	33	6	0.1	17	7	1.6	47	<0.1	32	300	56	220	250	420	40	330	40	240	240	340
Benzo(a)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.001	0.001	0.002	0.001	0.002	<0.001	0.001	0.001	0.001
Benzo(a)anthracene	mg/kg	0.1						0.6	10	2.8	0.2	37	3.4	<0.1	10	2.2	0.2	43	<0.1	31	280	32	160	260	420	32	280	30	170	250	420
Chrysene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	0.001	0.001	0.002	0.002	<0.001	<0.001	0.001	0.001
Chrysene	mg/kg	0.1						0.7	9.2	2.6	0.2	36	2.8	<0.1	8.6	1.6	0.3	44	<0.1	30	230	30	140	220	450	32	230	27	160	230	350
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002						<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	0.003	<0.002	<0.002	<0.002	<0.002
Benzo(bjk)fluoranthene	mg/kg	0.2						0.4	15	3.1	<0.2	67	3	<0.2	14	2	<0.2	80	<0.2	55	460	57	270	470	810	61	480	56	300	490	730
Benzo(a)pyrene in TCLP	mg/L	0.001	0.04		0.16			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001
Benzo(a)pyrene	mg/kg	0.05		10		23		0.2	7.3	1.4	<0.05	43	1.3	0.05	6.9	0.95	<0.05	44	<0.05	29	310	36	150	290	430	30	310	33	170	300	470
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001

APPENDIX B
PARTICLE SIZE DISTRIBUTION

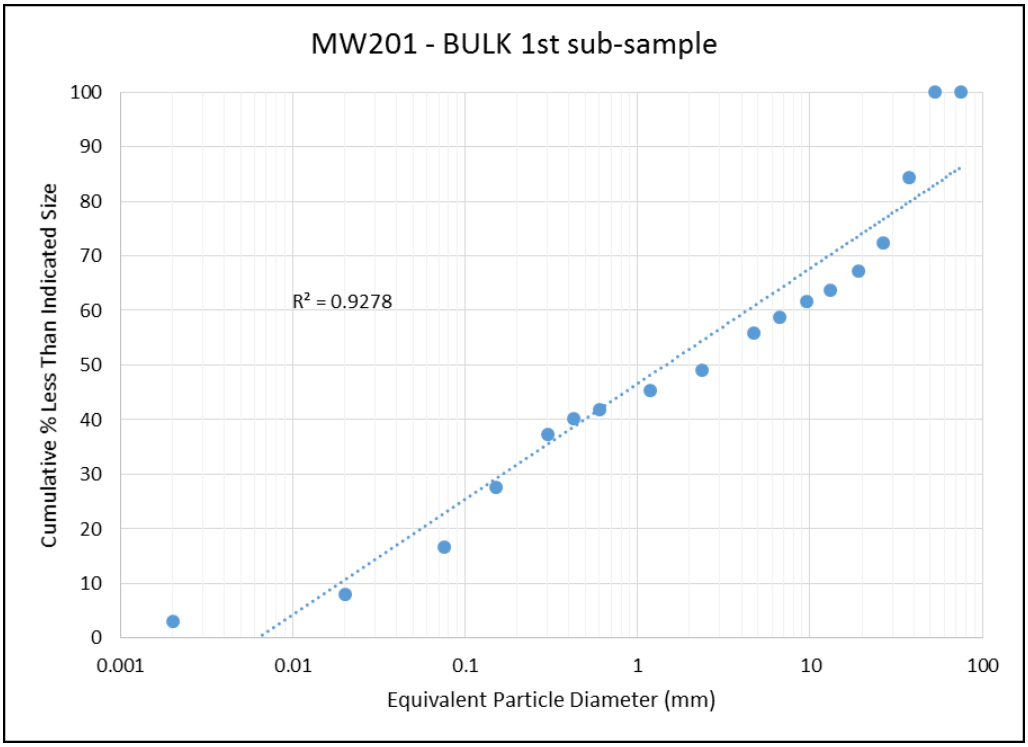


Figure B1: MW201 Bulk Sample PSD analysis

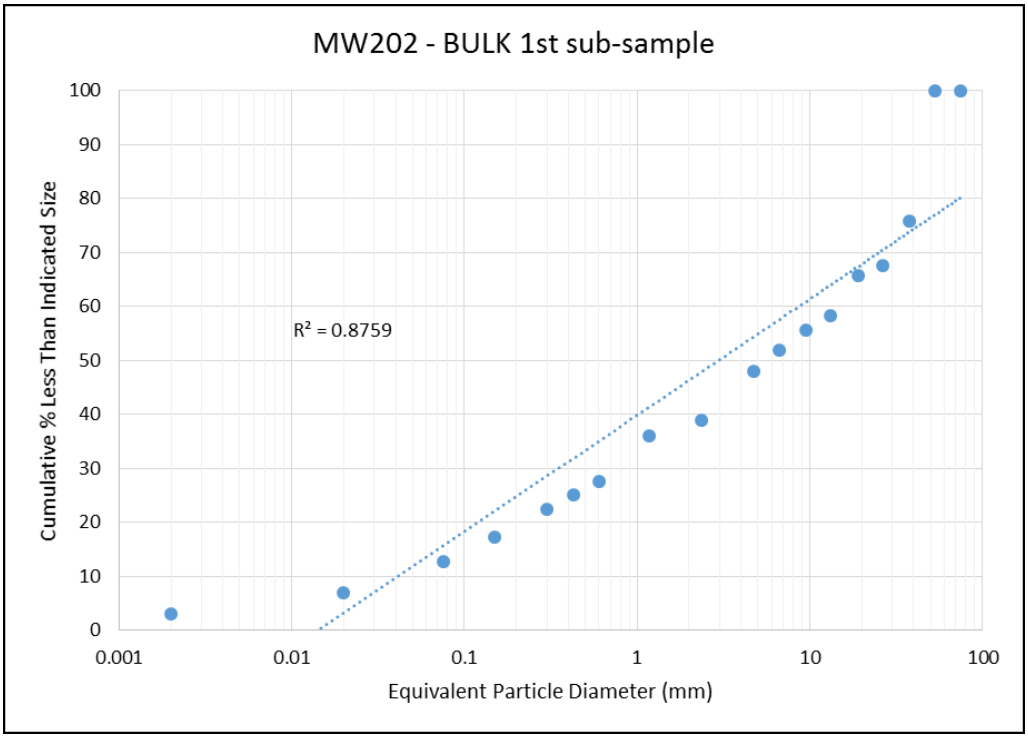


Figure B2: MW202 Bulk Sample PSD analysis

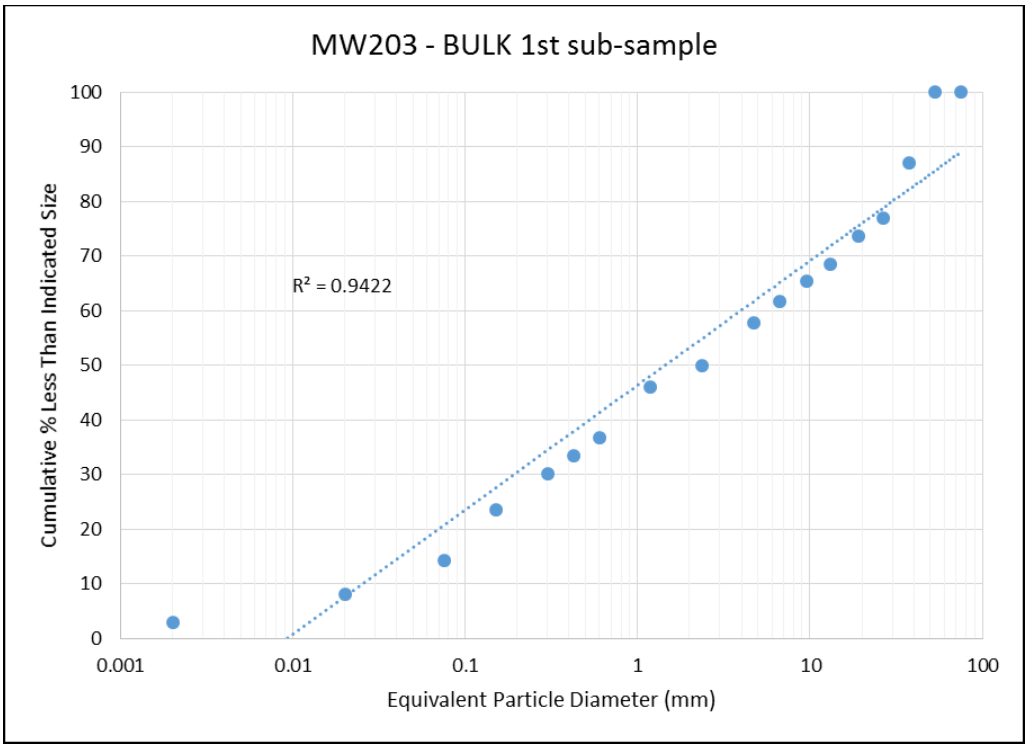


Figure B3: MW203 Bulk Sample PSD analysis

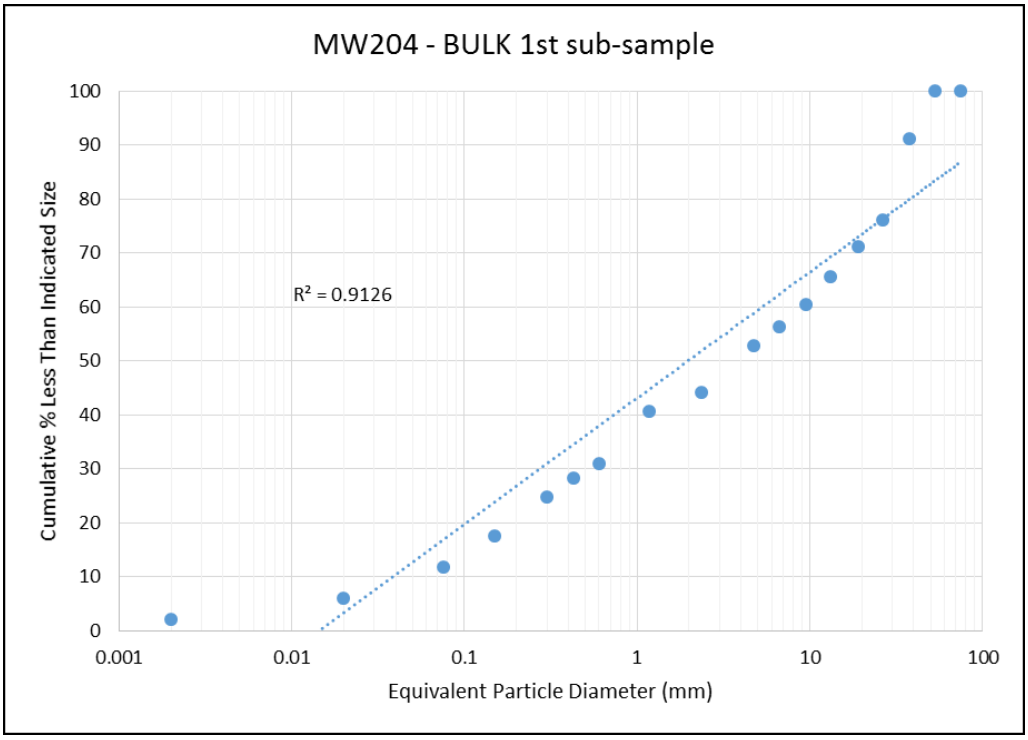


Figure B4: MW204 Bulk Sample PSD analysis

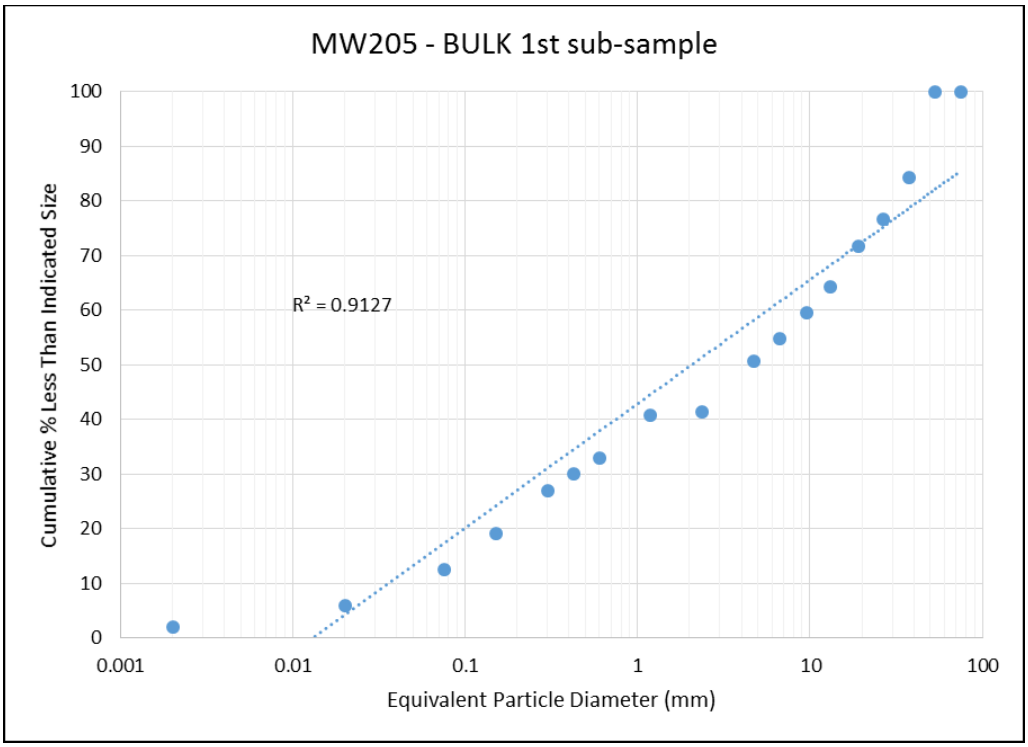


Figure B5: MW205 Bulk Sample PSD analysis

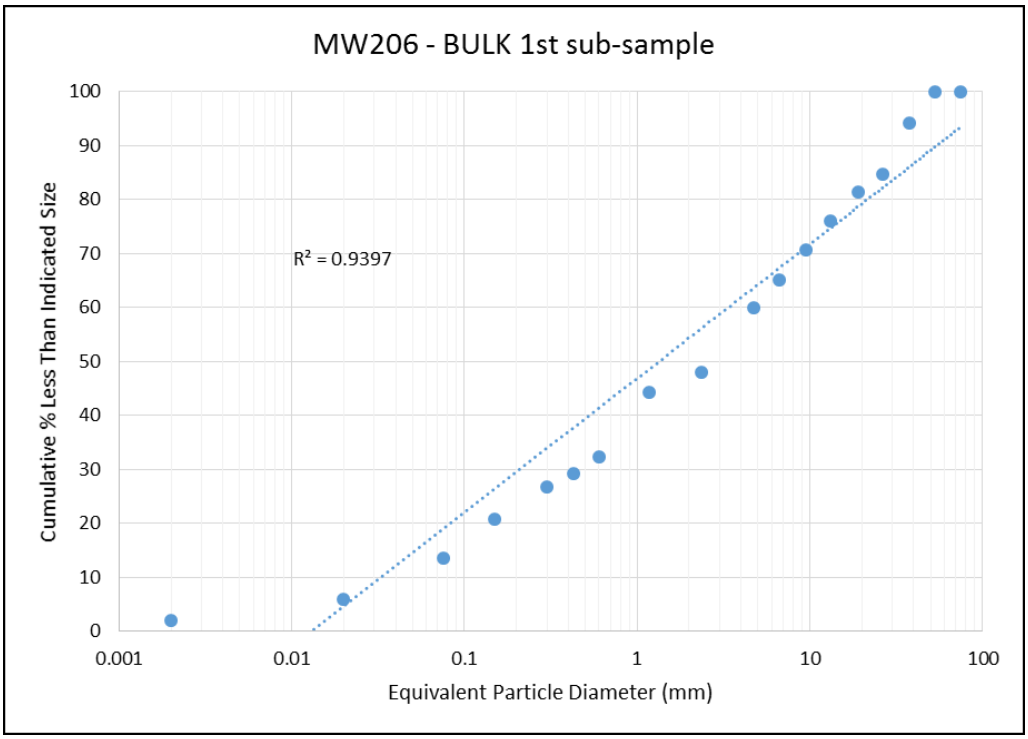


Figure B6: MW206 Bulk Sample PSD analysis

APPENDIX C
OECD TESTING REPORT

ANALYTICAL REPORT

Customer:	Craig Goodbody Ramboll Environ Level 2, Suite 18, 50 Glebe Rd, The Junction NSW 2291
Your Reference:	16 solid waste samples for gas evolution testing (AS130515)
SGS Report Number:	ENV25962 SE162852
Receipt of Samples:	15/03/2017

The samples were analysed in accordance with your instructions. The result and associated information are contained in the following page of the report. Should you have any queries regarding this report please contact the undersigned.

Reported by: James Somerville

Date: 3/04/2017

Report authorised by: Dr Peter Novella

Date: 3/04/2017

This document is issued, on the Client's behalf, by the company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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1.0 Background

SGS Environmental Sydney was engaged by Ramboll Environ Australia (the Client) to conduct the Gas Evolution test (solids that evolve into flammable gas when wet), as found within the UN Manual of Tests and Criteria (OECD, 2015) in accordance with the requirements and/or modifications within the IMSBC Code (IMO, 2013):

16 solid waste samples were relinquished into the custody of SGS Environment, Health and Safety on the 15/03/2017.

Details of the samples condition, preparation, analysis and findings are provided in the following pages of this report.

1.1 Solids That Evolves Into Flammable Gas When Wet Testing

The test within Part III, Section 33.4.1.4.3.5 of the UN Manual of Tests, is prescribed in the IMSBC Code to assess whether a substance is a solid that evolves into flammable gas when wet.

In accordance with the procedure, the substance should be brought into contact with water under a variety of conditions, in which gas evolution and spontaneous ignition can be observed. If it is known that the substance does not react violently with water, then a measure of the amount of gas evolution is required. If gas does evolve throughout the test, the evolved gas should be assessed for flammability.

To determine the quantity of gas evolution, a maximum of 25g of substance is placed into a conical flask. Water is added via a dropping funnel, and the evolved gas is measured by any suitable means. If gas evolves, the chemical identity of the gas should be determined.

In accordance with the IMSBC Code, the test should be carried out over 48 hours

2.0 Sample Condition and Preparation

16 solid waste samples in 250ml glass jars were provided to SGS in duplicate and logged as follows in Table 1:

Table 1: Sample IDs

Client ID	SGS ID
CWS_01	SE162852-1
CWS_02	SE162852-2
CWS_03	SE162852-3
CWS_04	SE162852-4
CWS_05	SE162852-5
CWS_06	SE162852-6
CWS_07	SE162852-7
CWS_08	SE162852-8
CWS_09	SE162852-9
CWS_10	SE162852-10
CWS_11	SE162852-11
CWS_12	SE162852-12
CWS_13	SE162852-13
CWS_14	SE162852-14
CWS_15	SE162852-15
CWS_16	SE162852-16

According Section 33.4.1.4.3.5 of the UN Manual, [in relation to the test method for substance which in contact with water emits flammable gases]:

"For solids, the package should be inspected for any particles of less than 500µm diameter. If that powder constitutes more than 1% (mass) of the total, or if the substance is friable, then the whole of the sample should be ground to a powder before testing to allow for a reduction in particle size during handling and transport."

Upon inspection the samples were observed to contain fine particles, therefore a portion of the samples were pulverised for use in the Solids That Evolves into Flammable Gas When Wet test. Representative images of the samples prior to pulverisation and contained in Figure 1.



Figure 1. Representative images of the solid waste samples showing both fine and coarse particles prior to pulverisation.

3.0 Solids That Evolve Into Flammable Gas When Wet Testing

A portion of each sample was submerged in water and observed for evolution of gas. Based on this preliminary test, the samples were not suspected to react violently with water, and therefore it was not considered necessary to bring the samples into contact with water under a variety of conditions (as per Sections 33.4.1.4.3.2 – 33.4.1.4.3.4 of the UN Manual).

An apparatus based on the displacement of water was used to measure the evolution of gas produced by the sample when in contact with water. Between 24-25g of each sample was brought into contact with at least 50mL of water in a closed system. Readings were taken at the commencement of the test and after 48 hours. An image of the typical setup of this system is displayed below in Figure 2.

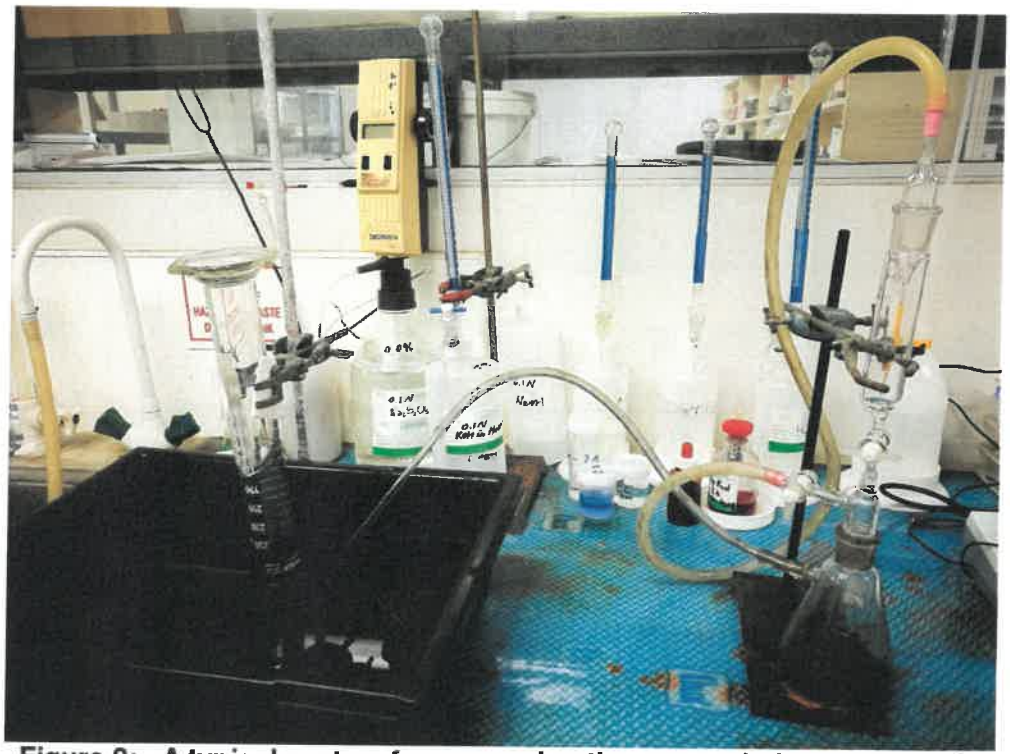


Figure 2: A typical system for measuring the gas evolution of a sample

3.1 Solids That Evolve Into Flammable Gas When Wet Results

Table 2a. Results of the gas evolution testing.

Client ID	SGS ID	Rate of Evolution, Replicate A (mL/48 hours)	Rate of Evolution, Replicate B (mL/48 hours)	Result
CWS_01	SE162852-1	0	0	Negative
CWS_02	SE162852-2	0	0	Negative
CWS_03	SE162852-3	0	0	Negative
CWS_04	SE162852-4	0	0	Negative
CWS_05	SE162852-5	0	0	Negative
CWS_06	SE162852-6	0	0	Negative
CWS_07	SE162852-7	0	0	Negative
CWS_08	SE162852-8	0	0	Negative
CWS_09	SE162852-9	0	0	Negative

Table 2b. Results of the gas evolution testing.

Client ID	SGS ID	Rate of Evolution, Replicate A (mL/48 hours)	Rate of Evolution, Replicate B (mL/48 hours)	Result
CWS_10	SE162852-10	0	0	Negative
CWS_11	SE162852-11	0	0	Negative
CWS_12	SE162852-12	0	0	Negative
CWS_13	SE162852-13	0	0	Negative
CWS_14	SE162852-14	0	0	Negative
CWS_15	SE162852-15	0	0	Negative
CWS_16	SE162852-16	0	0	Negative

3.2 Comments

The IMSBC Code (IMO, 2013), classifies substances as Materials Hazardous Only in Bulk (MHB) if the flammable gas evolution rate is greater than zero. The UN Manual of Tests and Criteria (Section 33.4.1.4) classifies substances as Class 4.3 dangerous goods if the evolution rate of flammable gas is greater than one litre per kilogram per hour. Neither of these criteria apply to the samples tested.

No gas, including flammable gas, was observed to evolve throughout the duration of the test for each sample.

4.0 References

Organisation for Economic Cooperation and Development (OECD), 2015. Recommendations on the Transport of Dangerous Goods – Manual of Tests and Criteria Sixth Revised Edition, United Nations Publication, Sales No. E.09. VIII.3, ISBN 978-92-1-139135-0, ISSN 1014-7160.

Organisation for Economic Cooperation and Development (OECD), 2015. UN Model Regulations UN Recommendations on the Transport of Dangerous Good – Model Regulations Nineteenth Revised Edition, United Nations Publication, Sales No. E.13.VIII.1, ISBN 978-92-1-139146-6, e-ISBN 978-92-1-056081-8, ISSN 1014-5753.

APPENDIX D
TREATMENT STUDIES RESULTS

Table D1: Treated CWS Material Waste Classification SCC, CT1 and CT2

Contaminant	Units	LOR	General Solid Waste	Restricted Solid Waste	LIME at 50% DRY						CaCl2 at 50% DRY						CEMENT at 30% DRY						LIME at 50% WET						CaCl2 at 50% WET						CEMENT at 30% WET						LIME at 10% DRY						CEMENT at 10% DRY						LIME at 10% WET						CEMENT at 10% WET					
			Maximum values of specific contaminant concentration (SCC) for classification without TCLP (CT1 and CT2)																																																											
					MW2031 + 50% Lime Dry	MW2032 + 50% Lime Dry	MW2033 + 50% Lime Dry	MW2034 + 50% Lime Dry	MW2035 + 50% CaCl2 DRY	MW2036 + 50% CaCl2 DRY	MW2037 + 50% CaCl2 DRY	MW2038 + 50% CaCl2 DRY	MW2039 + 30% Cement DRY	MW2040 + 30% Cement DRY	MW2041 + 30% Cement DRY	MW2042 + 30% Cement DRY	MW2031 + 50% Lime WET	MW2032 + 50% Lime WET	MW2033 + 50% Lime WET	MW2034 + 50% Lime WET	MW2035 + 30% Cement WET	MW2036 + 30% Cement WET	MW2037 + 30% Cement WET	MW2038 + 30% Cement WET	MW2031 + 50% CaCl2 WET	MW2032 + 50% CaCl2 WET	MW2033 + 50% CaCl2 WET	MW2034 + 50% CaCl2 WET	MW2035 + 30% Cement WET	MW2036 + 30% Cement WET	MW2037 + 30% Cement WET	MW2038 + 30% Cement WET	MW2031 10% LIME DRY	MW2032 10% LIME DRY	MW2033 10% LIME DRY	MW2034 10% LIME DRY	MW2035 10% CEMENT DRY	MW2036 10% CEMENT DRY	MW2037 10% CEMENT DRY	MW2038 10% CEMENT DRY	MW2031 10% LIME WET	MW2032 10% LIME WET	MW2033 10% LIME WET	MW2034 10% LIME WET	MW2035 10% CEMENT WET	MW2036 10% CEMENT WET	MW2037 10% CEMENT WET	MW2038 10% CEMENT WET
Contaminant	Units	LOR																																																											
TRH C6 - C9	mg/kg	25			<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C6 - C10	mg/kg	25			<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
TRH C6 - C10 less BTEX (F1)	mg/kg	25			<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Benzene	mg/kg	0.2	10	40	<0.2	<0.2	<0.2

Table D2: Treated CWS Material Waste Classification, TCLP1 and TCLP2

			Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)		Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)			LIME at 50% DRY						CaCl2 at 50% DRY					
Contaminant	Unit	LOR	Leachable (TCLP1) mg/L	Specific contaminant concentration (SCC1)	Leachable (TCLP2) mg/L	Specific contaminant concentration (SCC2)	Chemical Control Order mg/L	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY
pH of soil for fluid# determ.	pH units							12.5	12.5	12.5	12.5	12.5	12.5	7.5	7.3	7.7	7.6	7.3	7.7
pH of soil TCLP (after HCl)	pH units							12.3	12.4	12.4	12.4	12.4	12.4	1.8	1.8	2.1	1.9	1.7	1.9
Extraction fluid used	-							2	2	2	2	2	2	1	1	1	1	1	2
pH of final Leachate	pH units							12.3	12.5	12.4	12.4	12.5	12.4	4.1	4.9	5.3	5.2	5	5.1
Naphthalene in TCLP	mg/L	0.001						<0.001	0.0183	<0.001	0.0015	<0.001	<0.001	<0.001	0.0386	0.0015	0.002	<0.001	0.0012
Naphthalene	mg/kg	0.1						1	4	2	2	1	1	<1	5	1	1	2	1
Acenaphthylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthylene	mg/kg	0.1						<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene in TCLP	mg/L	0.001						<0.001	0.004	<0.001	0.003	0.001	0.004	0.001	0.015	0.001	0.004	0.002	0.004
Acenaphthene	mg/kg	0.1						2	15	2	8	6	13	1	15	2	5	7	12
Fluorene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	0.0022
Fluorene	mg/kg	0.1						1	5	0	4	4	6	<1	6	1	3	4	6
Phenanthrene in TCLP	mg/L	0.001						<0.001	0.0043	<0.001	0.0117	0.0086	0.0237	0.0017	0.0139	0.0011	0.0136	0.0141	0.0235
Phenanthrene	mg/kg	0.1						10	65	6	61	59	62	9	75	9	50	61	86
Anthracene in TCLP	mg/L	0.001						<0.001	<0.001	0.001	0.001	0.001	0.005	<0.001	0.001	<0.001	0.001	0.002	0.006
Anthracene	mg/kg	0.1						3	14	1	8	16	29	2	18	2	8	14	27
Fluoranthene in TCLP	mg/L	0.001						<0.001	0.0026	<0.001	0.0075	0.0066	0.0148	0.0014	0.0054	<0.001	0.0063	0.0091	0.0106
Fluoranthene	mg/kg	0.1						26	155	21	125	140	220	43	180	32	112	160	190
Pyrene in TCLP	mg/L	0.001						<0.001	0.0022	<0.001	0.0053	0.0049	0.011	0.0011	0.0043	<0.001	0.0046	0.0067	0.0078
Pyrene	mg/kg	0.1						24	147	22	112	140	210	41	190	31	103	160	190
Benzo(a)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	0.001	0.003	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Benzo(a)anthracene	mg/kg	0.1						14	123	10	66	130	270	27	165	22	59	174	210
Chrysene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	0.0011	0.0023	<0.001	<0.001	<0.001	<0.001	0.0013	0.0014
Chrysene	mg/kg	0.1						21	98	12	66	120	210	34	130	18	59	157	190
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002						<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(bjk)fluoranthene	mg/kg	0.2						41	219	24	136	260	540	68	295	39	122	372	460
Benzo(a)pyrene in TCLP	mg/L	0.001	0.04		0.16			<0.001	<0.001	<0.001	<0.001	<0.001	0.0012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(a)pyrene	mg/kg	0.05		10		23		16	151	14	81	170	340	24	203	24	74	246	300
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1						9	77	7	40	101	160	12	95	12	37	125	191
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/kg	0.1						3	19	1	9	31	56	3	24	2	10	38	63
Benzo(g,h,i)perylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene	mg/kg	0.1						11	91	9	46	111	170	14	108	15	42	133	194
Total +ve PAH in TCLP	mg/L							NIL (+)VE	0.031	0.001	0.03	0.024	0.067	0.005	0.079	0.004	0.032	0.037	0.058
Total +ve PAH	mg/kg	0.5		200		800		180	1182	130	765	1288	2288	279	1508	211	686	1654	2120
Tot Cyanide in Neutral Leach (ASLP)	mg/L	0.004	16		64		10	0.022	0.04	0.014	0.03	0.027	0.051	1.3	0.65	1.5	1.1	1.4	2.7
Total Cyanide	mg/kg	0.5		5900		23600		3.1	1.7	2.5	1.4	0.9	0.9	2.2	0.8	3.4	1.2	1.7	6.2
Fluoride in TCLP	mg/L	0.1	150		600		150	8.465	4.188	9.995	8.518	10.778	10.357	416.5	196.7	272	231.1	227	251
Total Fluoride	mg/kg	50		10000		40000		18469	17681	22530	16377	13741	16619	25331	4370	42876	29448	25474	23534

			Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)		Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)			CEMENT at 30% DRY						LIME at 50% WET					
Contaminant	Unit	LOR	Leachable (TCLP1) mg/L	Specific contaminant concentration (SCC1)	Leachable (TCLP2) mg/L	Specific contaminant concentration (SCC2)	Chemical Control Order mg/L	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET
pH of soil for fluid# determ.	pH units							11.8	11.6	11.8	11.6	11.8	11.9	12.4	12.6	12.6	12.6	12.6	12.6
pH of soil TCLP (after HCl)	pH units							7.8	6.6	7	6.4	6.5	7.4	12.2	12.2	12.2	12.2	12.3	12.3
Extraction fluid used	-							2	2	2	2	2	2	2	2	2	2	2	2
pH of final Leachate	pH units							10.5	9.4	10.4	9.6	9.3	10.6	12.3	12.2	12.2	12.2	11.9	12.3
Naphthalene in TCLP	mg/L	0.001						<0.001	0.0293	0.0011	0.003	<0.001	0.0013	<0.001	0.0287	0.0018	0.0024	0.0012	<0.001
Naphthalene	mg/kg	0.1						1	4	2	2	1	1	0	3	<1	2	<1	<1
Acenaphthylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthylene	mg/kg	0.1						<1	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	<1
Acenaphthene in TCLP	mg/L	0.001						<0.001	0.009	<0.001	0.006	0.001	0.006	0.001	0.013	0.001	0.005	0.002	0.006
Acenaphthene	mg/kg	0.1						3	17	3	8	7	16	1	9	2	5	3	8
Fluorene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	0.0018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fluorene	mg/kg	0.1						1	6	<1	3	5	8	0	3	1	2	2	4
Phenanthrene in TCLP	mg/L	0.001						<0.001	0.0089	<0.001	0.014	0.0127	0.0225	0.0015	0.0142	0.001	0.023	0.0145	0.0353
Phenanthrene	mg/kg	0.1						14	82	13	68	72	119	6	33	7	36	21	48
Anthracene in TCLP	mg/L	0.001						<0.001	0.001	0.001	0.001	0.001	0.004	<0.001	0.001	<0.001	0.001	0.001	0.005
Anthracene	mg/kg	0.1						3	17	3	12	16	37	2	5	1	4	5	14
Fluoranthene in TCLP	mg/L	0.001						<0.001	0.0038	<0.001	0.0072	0.0084	0.0112	0.0013	0.0058	<0.001	0.0119	0.0097	0.017
Fluoranthene	mg/kg	0.1						40	180	41	138	180	280	17	89	20	83	79	144
Pyrene in TCLP	mg/L	0.001						<0.001	0.0031	<0.001	0.0053	0.0065	0.0084	0.0011	0.0045	<0.001	0.0081	0.0074	0.0118
Pyrene	mg/kg	0.1						38	190	38	123	190	280	16	86	20	74	76	136
Benzo(a)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.001	<0.001	0.001	0.001	0.002
Benzo(a)anthracene	mg/kg	0.1						29	154	21	74	220	350	14	67	10	47	82	146
Chrysene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	0.0014	<0.001	<0.001	<0.001	<0.001	0.001	0.0012
Chrysene	mg/kg	0.1						30	134	22	71	181	280	13	52	11	41	65	131
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002						<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(bjk)fluoranthene	mg/kg	0.2						65	250	46	146	380	690	29	109	20	75	141	316
Benzo(a)pyrene in TCLP	mg/L	0.001	0.04		0.16			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(a)pyrene	mg/kg	0.05		10		23		27	211	29	87	276	440	10	76	13	46	91	209
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1						15	110	14	44	127	309	6	37	6	22	45	94
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/kg	0.1						4	28	3	12	39	137	2	9	<0.1	5	13	29
Benzo(g,h,i)perylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene	mg/kg	0.1						18	126	17	49	134	326	7	41	7	25	47	94
Total +ve PAH in TCLP	mg/L							NIL (+)VE	0.055	0.002	0.036	0.031	0.058	0.005	0.068	0.004	0.052	0.038	0.078
Total +ve PAH	mg/kg	0.5		200		800		289	1509	251	837	1830	3272	123	620	116	469	668	1374
Tot Cyanide in Neutral Leach (ASLP)	mg/L	0.004	16		64		10	3.3	1.9	5.1	3.2	5.1	5	0.066	0.075	0.15	0.11	0.043	0.1
Total Cyanide	mg/kg	0.5		5900		23600		64.9	15.2	74.7	46.8	87.4	59.7	2.8	5.5	9.3	5.4	9.4	7.5
Fluoride in TCLP	mg/L	0.1	150		600		150	23.645	0.442	12.897	0.432	0.62	34.597	10.589	10.958	12.15	10.811	0.818	11.817
Total Fluoride	mg/kg	50		10000		40000		27641	26403	30465	28299	31283	11677	19264	24509	24833	28146	27296	16650

			Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)		Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)			CaCl2 at 50% WET					
Contaminant	Unit	LOR	Leachable (TCLP1) mg/L	Specific contaminant concentration (SCC1)	Leachable (TCLP2) mg/L	Specific contaminant concentration (SCC2)	Chemical Control Order mg/L	MW201 + 50% CaCl2 WET	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
pH of soil for fluid# determ.	pH units							6.6	6.4	6.6	6.4	6.4	6.4
pH of soil TCLP (after HCl)	pH units							1.8	1.8	2.2	2.1	1.7	1.9
Extraction fluid used	-							1	1	1	1	1	1
pH of final Leachate	pH units							4.9	5	5.3	5.3	5.1	5.2
Naphthalene in TCLP	mg/L	0.001						<0.001	0.0251	0.0015	0.002	0.0012	<0.001
Naphthalene	mg/kg	0.1						0	3	1	2	2	2
Acenaphthylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthylene	mg/kg	0.1						<0.1	<1	<1	<1	<1	<1
Acenaphthene in TCLP	mg/L	0.001						0.001	0.012	0.001	0.004	0.002	0.004
Acenaphthene	mg/kg	0.1						1	13	4	7	5	14
Fluorene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	0.001	0.0018
Fluorene	mg/kg	0.1						0	5	2	4	3	7
Phenanthrene in TCLP	mg/L	0.001						0.0018	0.0146	0.0016	0.0128	0.0153	0.0277
Phenanthrene	mg/kg	0.1						8	68	17	66	45	103
Anthracene in TCLP	mg/L	0.001						<0.001	0.001	<0.001	0.001	0.002	0.005
Anthracene	mg/kg	0.1						2	11	4	12	10	31
Fluoranthene in TCLP	mg/L	0.001						0.0014	0.0056	<0.001	0.0065	0.0087	0.0118
Fluoranthene	mg/kg	0.1						23	186	43	130	131	230
Pyrene in TCLP	mg/L	0.001						0.0012	0.0045	<0.001	0.0048	0.0065	0.0087
Pyrene	mg/kg	0.1						22	185	42	117	128	250
Benzo(a)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	0.001	0.001
Benzo(a)anthracene	mg/kg	0.1						20	135	20	82	113	290
Chrysene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	0.0014
Chrysene	mg/kg	0.1						18	121	23	67	106	240
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002						<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(bjk)fluoranthene	mg/kg	0.2						39	267	44	136	234	570
Benzo(a)pyrene in TCLP	mg/L	0.001	0.04		0.16			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(a)pyrene	mg/kg	0.05		10		23		17	188	28	83	156	370
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1						11	92	13	42	71	189
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/kg	0.1						4	23	3	11	21	62
Benzo(g,h,i)perylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene	mg/kg	0.1						12	103	16	47	73	201
Total +ve PAH in TCLP	mg/L							0.005	0.063	0.004	0.031	0.038	0.061
Total +ve PAH	mg/kg	0.5		200		800		177	1400	258	808	1096	2559
Tot Cyanide in Neutral Leach (ASLP)	mg/L	0.004	16		64		10	0.13	0.11	0.22	0.23	0.11	0.24
Total Cyanide	mg/kg	0.5		5900		23600		3.8	230	23	93	200	250
Fluoride in TCLP	mg/L	0.1	150		600		150	175	289	244	277	288	256
Total Fluoride	mg/kg	50		10000		40000		19913	38778	27216	38250	17093	31563

Table D2: Treated CWS Material Waste Classification, TCLP1 and TCLP2 (continued)

			Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)		Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)			CEMENT at 30% WET						LIME at 10% DRY					
Contaminant	Unit	LOR	Leachable (TCLP1) mg/L	Specific contaminant concentration (SCC1)	Leachable (TCLP2) mg/L	Specific contaminant concentration (SCC2)	Chemical Control Order mg/L	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET	MW206 + 30% Cement WET	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY	MW206 10% LIME DRY
pH of soil for fluid# determ.	pH units							12	11.4	11.6	11.5	11.2	11.7	12.4	12.4	12.5	12.4	12.5	12.5
pH of soil TCLP (after HCl)	pH units							5.9	6	6.5	6.8	5.9	5.8	12.2	11.9	11.5	11.5	10.5	11.8
Extraction fluid used	-							2	2	2	2	2	2	2	2	2	2	2	2
pH of final Leachate	pH units							7.6	7.7	7.7	7.5	7.5	7.3	6	6.4	6.7	6.6	6.4	6.2
Naphthalene in TCLP	mg/L	0.001						<0.001	0.0262	0.0019	0.003	0.0014	<0.001	<0.001	0.003	0.001	<0.001	<0.001	<0.001
Naphthalene	mg/kg	0.1						1	4	2	2	3	<1	1.4	2.5	0.6	1.2	1.9	1.6
Acenaphthylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Acenaphthylene	mg/kg	0.1						<1	<1	<1	<1	<1	<1	<0.1	0.2	<0.1	0.4	0.3	0.2
Acenaphthene in TCLP	mg/L	0.001						0.001	0.011	0.001	0.006	0.002	0.005	<0.001	0.02	0.001	0.005	<0.001	0.002
Acenaphthene	mg/kg	0.1						2	16	4	7	8	14	2.4	34	4.8	9.3	15	25
Fluorene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	0.0011	<0.001	0.004	<0.001	<0.001	<0.001	<0.001
Fluorene	mg/kg	0.1						1	5	1	3	5	7	0.6	20	1.8	3.3	7.7	12
Phenanthrene in TCLP	mg/L	0.001						0.0012	0.0129	0.0012	0.0197	0.0139	0.0229	<0.001	0.015	0.001	0.007	0.003	0.014
Phenanthrene	mg/kg	0.1						8	81	13	54	76	107	7.7	120	13	43	84	83
Anthracene in TCLP	mg/L	0.001						<0.001	0.001	<0.001	0.001	0.001	0.003	<0.001	0.002	<0.001	<0.001	<0.001	0.005
Anthracene	mg/kg	0.1						2	14	2	6	18	26	0.8	16	1.9	4	5.8	19
Fluoranthene in TCLP	mg/L	0.001						<0.001	0.0052	<0.001	0.0095	0.0086	0.0115	<0.001	0.007	0.002	0.004	0.004	0.01
Fluoranthene	mg/kg	0.1						23	216	42	122	190	240	25	310	42	100	290	380
Pyrene in TCLP	mg/L	0.001						<0.001	0.0042	<0.001	0.0069	0.0065	0.0086	<0.001	0.005	0.002	0.003	0.003	0.008
Pyrene	mg/kg	0.1						22	215	41	111	200	240	24	300	39	96	290	360
Benzo(a)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(a)anthracene	mg/kg	0.1						19	150	22	76	234	300	15	190	23	64	270	370
Chrysene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chrysene	mg/kg	0.1						20	137	21	63	185	267	20	190	24	59	250	340
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002						<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(bjk)fluoranthene	mg/kg	0.2						43	304	42	127	431	560	33	340	44	110	470	670
Benzo(a)pyrene in TCLP	mg/L	0.001	0.04		0.16			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(a)pyrene	mg/kg	0.05		10		23		15	215	27	77	284	360	12	200	24	64	270	370
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1						9	102	12	39	142	191	9.8	160	20	56	210	290
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/kg	0.1						3	26	2	9	43	63	1.8	15	2.2	9.5	24	37
Benzo(g,h,i)perylene in TCLP	mg/L	0.001						<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene	mg/kg	0.1						11	112	15	43	148	192	9	140	18	47	170	230
Total +ve PAH in TCLP	mg/L							0.002	0.06	0.004	0.046	0.034	0.054	NIL (+)VE	0.057	0.007	0.02	0.01	0.038
Total +ve PAH	mg/kg	0.5		200		800		177	1598	247	741	1968	2569	160	2000	260	670	2400	3200
Tot Cyanide in Neutral Leach (ASLP)	mg/L	0.004	16		64		10	2.7	1.8	4.7	2.7	4.4	4.4	3.9	3.1	9.6	5.7	10	8.6
Total Cyanide	mg/kg	0.5		5900		23600		60.5	40.2	100.4	56.6	102.7	107.9	92	73	220	150	240	200
Fluoride in TCLP	mg/L	0.1	150		600		150	5.845	9.065	10.22	8.851	8.621	24.883	84	28	23	34	32	54
Total Fluoride	mg/kg	50		10,000		40,000		24511	35452	34123	40657	49113	25411	17000	19000	33000	19000	14000	9500

			Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)		Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)			CEMENT at 10% DRY						LIME at 10% WET					
Contaminant	Unit	LOR	Leachable (TCLP1) mg/L	Specific contaminant concentration (SCC1)	Leachable (TCLP2) mg/L	Specific contaminant concentration (SCC2)	Chemical Control Order mg/L	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY	MW205 10% CEMENT DRY	MW206 10% CEM

Table D3: Fly Ash Waste Classification SCC, CT1 and CT2

Contaminant	Units	LOR	Maximum values of specific contaminant concentration (SCC) for classification without TCLP (CT1 and CT2)		B.W F.G	B.W R.O.S	ERARING R.O.S	ERARING F.G
			General Solid Waste	Restricted Solid Waste				
TRH C6 - C9	mg/kg	25			<25	<25	<25	<25
TRH C6 - C10	mg/kg	25			<25	<25	<25	<25
vTPH C6 - C10 less BTEX (F1)	mg/kg	25			<25	<25	<25	<25
Benzene	mg/kg	0.2	10	40	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5	288	1152	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	1	600	2400	<1	<1	<1	<1
m+p-xylene	mg/kg	2			<2	<2	<2	<2
o-Xylene	mg/kg	1			<1	<1	<1	<1
Total +ve Xylenes	mg/kg	1	1000	4000	<1	<1	<1	<1
naphthalene	mg/kg	1			<1	<1	<1	<1
TRH C10 - C14	mg/kg	50			<50	<50	<50	<50
TRH C15 - C28	mg/kg	100			<100	<100	<100	<100
TRH C29 - C36	mg/kg	100			<100	<100	<100	<100
TRH >C10-C16	mg/kg	50			<50	<50	<50	<50
TRH >C10 - C16 less Naphthalen	mg/kg	50			<50	<50	<50	<50
TRH >C16-C34	mg/kg	100			<100	<100	<100	<100
TRH >C34-C40	mg/kg	100			<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	50			<50	<50	<50	<50
Naphthalene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1			0.2	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1			0.2	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1			0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1			0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.2			0.3	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.05	0.8	3.2	0.2	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1			0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1			0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	0.5	200	800	1.3	<0.05	<0.05	<0.05
HCB	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	0.1	60	240	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	0.1	4	16	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1
Phenol	mg/kg	0.5	288	1152	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
2-Methylphenol	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
3/4-Methylphenol	mg/kg	1			<1	<1	<1	<1
Nitrobenzene	mg/kg	1	40	160				
2,4-Dimethylphenol	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	5			<5	<5	<5	<5
2,4,6-trichlorophenol	mg/kg	0.5	40	160	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	0.5	8000	32000	<0.5	<0.5	<0.5	<0.5
Dimethylphthalate	mg/kg	1						
2,6-Dinitrotoluene	mg/kg	1						
2,4-dinitrophenol	mg/kg	10			<10	<10	<10	<10
4-nitrophenol	mg/kg	10			<10	<10	<10	<10
diethylphthalate	mg/kg	1			<1	<1	<1	<1
2-methyl-4,6-dinitrophenol	mg/kg	10			<10	<10	<10	<10
pentachlorophenol	mg/kg	5			<5	<5	<5	<5
di-n-butylphthalate	mg/kg	1			<1	<1	<1	<1
butylbenzylphthalate	mg/kg	1			<1	<1	<1	<1
bis(2-ethylhexyl)phthalate	mg/kg				<1	<1	<1	<1
di-n-octylphthalate	mg/kg	1			<1	<1	<1	<1
2,6-dichlorophenol	mg/kg	5			<0.5	<0.5	<0.5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5

Table D3: Fly Ash Waste Classification SCC, CT1 and CT2 (continued)

Contaminant	Units	LOR	Maximum values of specific contaminant concentration (SCC) for classification without TCLP (CT1 and CT2)		B.W F.G	B.W R.O.S	ERARING R.O.S	ERARING F.G
			General Solid Waste	Restricted Solid Waste				
Dichlorodifluoromethane	mg/kg	1			<1	<1	<1	<1
Chloromethane	mg/kg	1			<1	<1	<1	<1
Vinyl Chloride	mg/kg	1	4	16	<1	<1	<1	<1
Bromomethane	mg/kg	1			<1	<1	<1	<1
Chloroethane	mg/kg	1			<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	1			<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	1			<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	1			<1	<1	<1	<1
1,1-dichloroethane	mg/kg	1			<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	1			<1	<1	<1	<1
bromochloromethane	mg/kg	1			<1	<1	<1	<1
chloroform	mg/kg	1	120	480	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	1			<1	<1	<1	<1
1,2-dichloroethane	mg/kg	1	10	40	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	1	600	2400	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	1			<1	<1	<1	<1
Cyclohexane	mg/kg	1			<1	<1	<1	<1
carbon tetrachloride	mg/kg	1	10	40	<1	<1	<1	<1
Benzene	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	1			<1	<1	<1	<1
1,2-dichloropropane	mg/kg	1			<1	<1	<1	<1
trichloroethene	mg/kg	1			<1	<1	<1	<1
bromodichloromethane	mg/kg	1			<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	1			<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	1			<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	1	24	96	<1	<1	<1	<1
Toluene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	1			<1	<1	<1	<1
dibromochloromethane	mg/kg	1			<1	<1	<1	<1
1,2-dibromoethane	mg/kg	1			<1	<1	<1	<1
tetrachloroethene	mg/kg	1			<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	1	200	800	<1	<1	<1	<1
chlorobenzene	mg/kg	1	2000	8000	<1	<1	<1	<1
Ethylbenzene	mg/kg	1			<1	<1	<1	<1
bromoform	mg/kg	1			<1	<1	<1	<1
m+p-xylene	mg/kg	2			<2	<2	<2	<2
styrene	mg/kg	1	60	240	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	1	26	104	<1	<1	<1	<1
o-Xylene	mg/kg	1			<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	1			<1	<1	<1	<1
isopropylbenzene	mg/kg	1			<1	<1	<1	<1
bromobenzene	mg/kg	1			<1	<1	<1	<1
n-propyl benzene	mg/kg	1			<1	<1	<1	<1
2-chlorotoluene	mg/kg	1			<1	<1	<1	<1
4-chlorotoluene	mg/kg	1			<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	1			<1	<1	<1	<1
tert-butyl benzene	mg/kg	1			<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	1			<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	1			<1	<1	<1	<1
sec-butyl benzene	mg/kg	1			<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	1	150	600	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	1			<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	1	86	344	<1	<1	<1	<1
n-butyl benzene	mg/kg	1			<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	1			<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	1			<1	<1	<1	<1
hexachlorobutadiene	mg/kg	1			<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	1			<1	<1	<1	<1
Arsenic	mg/kg	4	100	400	7	6	7	<4
Cadmium	mg/kg	0.4	20	80	<0.4	<0.4	<0.4	<0.4
Copper	mg/kg	1			4	6	5	7
Lead	mg/kg	1	100	400	4	5	4	6
Mercury	mg/kg	0.1	4	16	<0.1	0.2	<0.1	0.2
Molybdenum	mg/kg	1	100	400	5	5	5	4
Nickel	mg/kg	1	40	160	3	2	5	2
Selenium	mg/kg	2	20	80	<2	2	<2	2
Silver	mg/kg	1	100	400	<1	<1	<1	<1
Tin	mg/kg	1			2	3	2	3
Zinc	mg/kg	1			13	11	15	10
Free Cyanide in soil	mg/kg	0.5	70	280	<0.5	<0.5	<0.5	<0.5
Total Cyanide	mg/kg	0.5	320	1280	<0.5	<0.5	<0.5	<0.5
Hexavalent Chromium, Cr6+	mg/kg	1	100	400	<1	<1	<1	<1
Total Fluoride	mg/kg	50	3000	12000	<50	70	<50	<50

Table D4: Fly Ash Waste Classification, TCLP1 and TCLP2

Contaminant	Unit	LOR	Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)	Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)	B.W F.G	B.W R.O.S	ERARING R.O.S	ERARING F.G
			Leachable (TCLP1)	Leachable (TCLP2)				
pH of soil for fluid# determ.	pH units				9.7	11.4	9.8	11.8
pH of soil TCLP (after HCl)	pH units				2	2	2	2
Extraction fluid used	-				1	1	1	1
pH of final Leachate	pH units				5	5.3	5.1	5.3
Naphthalene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Acenaphthylene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Fluorene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Anthracene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Fluoranthene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Pyrene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Benzo(a)anthracene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002			<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	0.001	0.04	0.16	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Total +ve PAH	mg/L				NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Tot Cyanide in Neutral Leach (ASLP)	mg/L	0.004	16	64	<0.004	<0.004	<0.004	<0.004
Fluoride in TCLP	mg/L	0.1	150	600	1.7	0.9	1	1.3

APPENDIX E
MONOLITH LEACHING RESULTS

Table E1: Untreated Monolith Samples Eluates (T01 to T09), TCLP1 and TCLP2

Contaminant	Units	LOR	Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)	Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)	Chemical Control Order	MW201_>125									MW202_>125									MW203_>125								
			Leachable (TCLP1)	Leachable (TCLP2)		T01	T02	T03	T04	T05	T06	T07	T08	T09	T01	T02	T03	T04	T05	T06	T07	T08	T09	T01	T02	T03	T04	T05	T06	T07	T08	T09
UNFILTERED																																
Naphthalene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				8	2	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	2	<1
Anthracene	µg/L	1				1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1				21	3	1	<1	<1	<1	<1	<1	<1	<1	1	1	2	2	2	2	2	2	<1	<1	<1	<1	<1	<1	<1	3	<1
Pyrene	µg/L	1				21	3	1	<1	<1	<1	<1	<1	<1	<1	<1	1	2	2	2	1	1	2	<1	<1	<1	<1	<1	<1	<1	3	<1
Benzo(a)anthracene	µg/L	1				10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Chrysene	µg/L	1				21	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1
Benzo(b,j+k)fluoranthene	µg/L	2				20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	3	<2
Benzo(a)pyrene	µg/L	1	40	160		7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1				1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Dibenzo(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	5				10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1				110	11	3.8	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	1	2.2	3.6	4.4	5.2	2.9	3	4.7	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	1.7
Total Cyanide in Eluates	mg/L	0.004	16	64	10	1.2	0.24	0.18	0.73	0.76	0.94	0.73	0.27	0.23	<0.004	<0.004	<0.004	<0.004	0.007	<0.004	<0.004	<0.004	<0.004	0.86	0.49	0.29	0.78	0.63	0.71	0.52	0.25	0.27
Fluoride, F in Eluates	mg/L	0.1	150	600	150	66	41	30	50	53	54	53	28	35	1.7	0.4	0.4	0.7	0.9	1.3	0.7	0.2	0.4	190	150	100	220	210	300	240	79	130
FILTERED																																
Naphthalene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1				1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1				1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1				2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	2				5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	1	40	160		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	5				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1				NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	2.8	3.5	5.9	6.5	5.1	5.1	5.7	4.9	3.8	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Total Cyanide in Eluates	mg/L	0.004	16	64	10	0.95	0.76	0.5	1.3	0.91	1.3	1.1	0.36	0.44	0.006	<0.004	<0.004	0.004	<0.004	<0.004	<0.004	0.004	0.004	7.8	1.7	1.1	3.2	2.9	3.6	2.7	1	1.6
Fluoride, F in Eluates	mg/L	0.1	150	600	150	35	38	35	67	70	86	85	49	72	2	0.6	0.4	1	1	1.8	1.2	0.4	0.8	88	64	56	96	110	120	120	82	96
FILTERED																																
Naphthalene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	1	40	160		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	5				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1				NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE

Contaminant	Units	LOR	MW204_>125									MW205_>125									MW206_>125								
			T01	T02	T03	T04	T05	T06	T07	T08	T09	T01	T02	T03	T04	T05	T06	T07	T08	T09	T01	T02	T03	T04	T05	T06	T07	T08	T09
UNFILTERED																													
Naphthalene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	4	2	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	4	2	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	6	2	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	4	2	<1	<1	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	9	5	<2	<2	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5	2	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	2	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	4	2	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	6	2	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	39	19	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Total Cyanide in Eluates	mg/L	0.004	0.63	0.37	0.24	0.61	0.6	0.85	0.85	0.32	0.45	0.9	0.52	0.37	0.56	0.69	0.66	0.55	0.19	0.19	0.78	0.47	0.3	0.56	0.79	0.93	0.75	0.28	0.33
Fluoride, F in Eluates	mg/L	0.1	77	64	45	120	120	160	180	75	110	120	100	73	110	200	240	210	110	150	190	160	130	20	340	460	330	150	220
FILTERED																													
Naphthalene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	2.4	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE

Table E1: Untreated Monolith Samples Eluates (T01 to T09), TCLP1 and TCLP2 (continued)

Contaminant	Units	LOR	Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)	Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)	Chemical Control Order	MW201 - 2nd sub-sample>125mm									MW202 - 2nd sub-sample>125mm									MW203 - 2nd sub-sample>125mm								
			Leachable (TCLP1)	Leachable (TCLP2)		T01	T02	T03	T04	T05	T06	T07	T08	T09	T01	T02	T03	T04	T05	T06	T07	T08	T09	T01	T02	T03	T04	T05	T06	T07	T08	T09
UNFILTERED																																
Naphthalene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	2	2	3	2	2	2	2	1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	2	2	2	2	2	2	2	1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	1	40	160		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table E2: Treated Monolith Sample Eluates (T01 to T09), TCLP1 and TCLP2

			Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)	Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)		MW201 + 50% Lime WET									MW202 + 50% Lime WET									MW203 + 50% Lime WET									MW204 + 50% Lime WET									MW205 + 50% Lime WET									MW206 + 50% Lime WET								
Contaminant	**Units**	**LOR**	**Leachable (TCLP1)**	**Leachable (TCLP2)**	**Chemical Control Order**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**
UNFILTERED																																																											
Naphthalene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	2	2	1	4	4	12	3	8	9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	1	3	2	4	4	9	3	6	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	2	3	3	4	4	5	2	4	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	1	2	4	8	2	2	2	2	<1	<1	1	<1	2	<1	1	<1	<1	1	2	1	2	4	2	2	2	2
Anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	1	2	2	2	2	2	<1	2	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1	1	1	2	3	2	2	2	1
Pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	1	2	2	2	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	1	<1	1	2	1	1	1
Benzo(a)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	1	40	160		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	5				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1				NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	5.7	12	9.6	15	16	31	8.6	21	19	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	1.3	1.5	1.7	9.7	4.5	2.7	3.8	2.5	NIL (+)VE	NIL (+)VE	3.5	NIL (+)VE	4.2	NIL (+)VE	2.1	1.1	NIL (+)VE	2.2	5	2.6	5	11	6.3	5.7	5.3	4.8
Total Cyanide in Eluates	mg/L	0.004	16	64	10	0.14	0.085	0.034	0.058	0.037	0.026	0.021	0.01	0.011	0.092	0.093	0.053	0.11	0.06	0.025	0.015	0.006	0.009	0.46	0.26	0.089	0.13	0.047	0.017	0.007	<0.004	<0.004	0.49	0.49	0.28	0.69	0.46	0.16	0.05	<0.004	0.011	0.63	0.35	0.14	0.18	0.09	0.024	0.015	0.008	0.007	0.13	0.06	0.025	0.044	0.031	0.018	0.007	0.004	0.004
Fluoride, F in Eluates	mg/L	0.1	150	600	150	15	12	5.3	7.1	5.9	4.7	4.1	2.7	2.6	25	21	9.7	17	11	4.9	4.5	3.1	3.4	47	38	16	18	11	7	5.2	3.5	3.9	45	30	13	17	13	8.2	5.2	3.3	3.7	61	46	20	18	12	5.8	4.9	4.8	3.8	24	19	9.3	12	9.4	5	4.1	3.5	2.9
FILTERED																																																											
Naphthalene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	1	2	2	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	1	40	160		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	5				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1				NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE

Table E3: Spent Pot Lining Monolith Sample Eluates (T01 to T09), TCLP1 and TCLP2

			Maximum values for leachable concentration and specific contaminant concentration when used together (General Solid Waste)	Maximum values for leachable concentration and specific contaminant concentration when used together (Restricted Solid Waste)		SPL_First Cut_1									SPL_First Cut_2									SPL_First Cut_3									SPL_First Cut_4									SPL_First Cut_5								
Contaminant	**Units**	**LOR**	Leachable (TCLP1)	Leachable (TCLP2)	Chemical Control Order	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**
UNFILTERED																																																		
Naphthalene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	1	40	160		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	5				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1				NIL (+)VE	NIL (+)VE	NIL (+)VE

APPENDIX F
QA/QC

Table F.1: QA/QC – Field and Laboratory Quality Assurance and Quality Control

Field and Lab QA/QC	Ramboll Environ Comments
	Intralaboratory duplicate untreated and treated waste samples were analysed at an overall rate of 14%. Intralaboratory duplicate eluate samples were analysed at a rate of 17%
Field quality control results	Relative Percent Differences (RPDs) in waste samples are provided in **Tables F2** to **F5** in this Appendix. Exceedances in RPD of 50% are shown in bold. Analytes where both the samples were below laboratory reporting limits have been excluded from the tables. Instances where one of the samples was below limits of reporting a value of half the limit of reporting is assigned for comparative purposes. In instances where the RPD for waste results between the primary and duplicate sample has been reported as greater than 50%, these discrepancies have been reviewed and are considered to be a result of sample heterogeneity.
NATA registered laboratory and NATA endorsed methods	Envirolab Services was used as the primary laboratory. ALS Environmental and Eurofins MGT were used as the secondary laboratories. The laboratory certificates are NATA stamped. OECD testing for Dangerous Goods Class 4.3 was carried out by SGS. Laboratory reports are provided in **Appendix G**.
Analytical methods	Summary analytical methods were included in the laboratory test certificates.
Holding times	The material was sampled from core trays of recovered sonic drill cores obtained from the CWS in October/November 2015. Holding times of the chosen analytes are not considered critical to the treatment study.
Practical Quantitation Limits (PQLs)	PQLs for all soil analytes were below the adopted screening criteria.
Laboratory quality control samples	Laboratory quality control samples including duplicates, laboratory control samples, matrix spikes, surrogate spikes and blanks were undertaken by the laboratories at appropriate frequencies.

Field and Lab QA/QC	Ramboll Environ Comments
Laboratory quality control results	The results for method blanks, laboratory duplicates, laboratory control samples (LCS), matrix spikes and surrogates were considered to be within the limit of reporting, with the exception of: TRH – 162119-2, 162119-34, 162119-56, 162119-F-8: Percent recovery is not possible to report as the high concentration of analytes in the sample/s have caused interference Cr(VI) – 162119-F-6, 162119-F-24: Matrix spike recovery was outside recommended acceptance criteria, however an acceptable recovery was achieved for the LCS. This indicates a sample matrix interference. PAH – 162119-2, 162119-34, 162119-56, 162119-F-8, 162119-F-26: Percent recovery is not possible to report as the high concentration of analytes in the sample/s have caused interference. SVOC – 162119-3, 162119-35, 162119-57, 162119-F-13, 162119-F-23, 162119-F-28: Percent recovery is not possible to report due to interference from analytes (other than those being tested) in the sample/s. Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 162119-44 for As, Cu, Mo, Sn. Therefore a triplicate result has been issued as laboratory sample number 162119-109. Sample 162119-40 was repeated in duplicate and triplicate as the Fluoride result was very high. The triplicate is present as sample 162119-110. These outliers are not considered to affect the quality of the data.

Table F2: RPD Asessment of Duplicate CWS Waste Samples - mg/kg

Contaminant	Units	LOR	Primary Sample MW201 - BULK 1st sub-sample	Duplicate Sample QA201	%RPD	Primary Sample MW202 - BULK 1st sub-sample	Duplicate Sample QA202	%RPD	Primary Sample MW203 - BULK 1st sub-sample	Duplicate Sample QA203	%RPD	Primary Sample MW204 - BULK 1st sub-sample	Duplicate Sample QA204	%RPD	Primary Sample MW205 - BULK 1st sub-sample	Duplicate Sample QA205	%RPD
TRH C6 - C9	mg/kg	25	<25	<10	-	<25	<10	-	<25	<10	-	<25	<10	-	<25	<10	-
naphthalene	mg/kg	1	<1	<1	-	6	3	**67%**	2	<1	**120%**	<1	<1	-	<1	<1	-
TRH C10 - C14	mg/kg	50	<50	<50	-	64	<50	**88%**	<50	<50	-	58	<50	**80%**	<50	<50	-
TRH C15 - C28	mg/kg	100	700	190	**115%**	3200	4320	30%	740	560	28%	2300	3310	36%	2100	1140	**59%**
TRH C29 - C36	mg/kg	100	690	200	**110%**	2900	4400	41%	1100	800	32%	2800	5390	**63%**	2200	1710	25%
TRH >C16-C34	mg/kg	100	1300	320	**121%**	5400	7440	32%	1600	1050	42%	4500	7030	44%	3900	2190	**56%**
TRH >C34-C40	mg/kg	100	350	110	**104%**	1400	2480	**56%**	760	590	25%	1600	3810	**82%**	1100	1120	2%
Total +ve TRH (>C10-C40)	mg/kg	50	1600	430	**115%**	6900	10000	37%	2400	1640	38%	6100	10900	**56%**	5000	3310	41%
Naphthalene	mg/kg	0.1	<1	1	-	7.7	4.1	**61%**	1.3	1.3	0%	3	2	40%	1.7	2.5	38%
Acenaphthylene	mg/kg	0.1	<1	<0.5	-	1	0.6	50%	<1	<0.5	-	1.7	0.8	**72%**	<1	0.6	-
Acenaphthene	mg/kg	0.1	2.7	1.6	**51%**	27	28.6	6%	4.2	3.6	15%	9.2	9.4	2%	5	11.6	**80%**
Fluorene	mg/kg	0.1	1.3	0.5	**89%**	10	17.4	**54%**	1.4	1.3	7%	4.3	3.9	10%	4	6.6	49%
Phenanthrene	mg/kg	0.1	17	8.1	**71%**	120	137	13%	16	21.2	28%	79	63.7	21%	51	92.1	**57%**
Anthracene	mg/kg	0.1	5.9	1.6	**115%**	28	30.8	10%	5.8	5	15%	15	10.9	32%	14	22.7	47%
Fluoranthene	mg/kg	0.1	52	24	**74%**	240	328	31%	43	53	21%	140	137	2%	140	295	**71%**
Pyrene	mg/kg	0.1	52	22.6	**79%**	230	326	35%	41	49.9	20%	130	127	2%	130	289	**76%**
Benzo(a)anthracene	mg/kg	0.1	46	15.5	**99%**	190	235	21%	27	29.2	8%	91	81.3	11%	160	289	**57%**
Chrysene	mg/kg	0.1	51	19.4	**90%**	150	229	42%	21	29.3	33%	73	79.1	8%	120	286	**82%**
Benzo(b,j+k)fluoranthene	mg/kg	0.2	100	40.9	**84%**	320	454	35%	45	68.2	41%	150	170.1	13%	300	611	**68%**
Benzo(a)pyrene	mg/kg	0.05	**41**	**14.1**	**98%**	**210**	**290**	32%	**25**	**33.1**	28%	**85**	**80.8**	5%	**160**	**371**	**79%**
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	22	9.2	**82%**	95	188	**66%**	11	22.3	68%	38	57.7	41%	73	256	**111%**
Dibenzo(a,h)anthracene	mg/kg	0.1	6	2.4	**86%**	24	62.6	**89%**	3	4.9	48%	10	13.6	31%	24	86	**113%**
Benzo(g,h,i)perylene	mg/kg	0.1	26	11.7	**76%**	100	249	**85%**	14	27.9	66%	42	69.3	49%	78	313	**120%**
Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.5	65	23.4	**94%**	300	445	39%	37	50.5	31%	120	127	6%	230	578	**86%**
Benzo(a)pyrene TEQ calc(half)	mg/kg	0.5	65	23.4	**94%**	300	445	39%	37	50.5	31%	120	127	6%	230	578	**86%**
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	65	23.4	**94%**	300	445	39%	37	50.5	31%	120	127	6%	230	578	**86%**
Total +ve PAH's	mg/kg	0.5	**430**	173	**85%**	**1800**	**2580**	36%	**260**	**350**	30%	**860**	**907**	5%	**1300**	**2930**	**77%**
Arsenic	mg/kg	4	6	5	18%	**120**	25	**131%**	92	42	**75%**	8	7	13%	39	26	40%
Cadmium	mg/kg	0.4	0.5	<1	-	0.6	<1	18%	0.5	<1	0%	0.7	<1	33%	1	<1	**67%**
Copper	mg/kg		24	72	**100%**	260	120	**74%**	400	216	**60%**	41	31	28%	230	72	**105%**
Lead	mg/kg		25	94	**116%**	**490**	**222**	**75%**	**330**	**184**	**57%**	20	31	43%	**210**	77	**93%**
Molybdenum	mg/kg	1	2	<2	**67%**	9	3	**100%**	9	6	40%	6	<2	**143%**	10	3	**108%**
Nickel	mg/kg		**43**	**47**	9%	**83**	**280**	**109%**	**49**	**71**	37%	**80**	**70**	13%	**170**	**109**	44%
Tin	mg/kg	1	2	17	**158%**	10	7	35%	16	7	**78%**	3	<5	18%	14	5	**95%**
Zinc	mg/kg		170	516	**101%**	2500	747	**108%**	3700	1040	**112%**	98	178	**58%**	4600	778	**142%**
Free Cyanide in soil	mg/kg	0.5	0.9	<1	**57%**	1	<1	-	5	<8	22%	3	<1	**143%**	4	<8	-
Total Cyanide	mg/kg		110	119	8%	120	80	40%	220	231	5%	110	154	33%	200	240	18%
Total Fluoride	mg/kg		**35411**	**23100**	42%	**25702**	**36500**	35%	**36790**	**38600**	5%	**34822**	**33500**	4%	**32566**	**38400**	16%

Table F2: RPD Asessment of Duplicate CWS Waste Samples - mg/kg (continued)

Contaminant	Units	LOR	Primary Sample MW206 - BULK 1st sub-sample	Duplicate Sample QA206	%RPD	Primary Sample MW201 - 1st sub-sample>125mm	Duplicate Sample QA201>125mm	%RPD	Primary Sample MW203 - 1st sub-sample>125mm	Duplicate Sample QA203>125mm	%RPD	Primary Sample MW201 - 1st sub-sample<125mm	Duplicate Sample QA201<125mm	%RPD	Primary Sample MW203 - 1st sub-sample<125mm	Duplicate Sample QA203<125mm	%RPD
TRH C6 - C9	mg/kg	25	<25	<10	-	<25	12	4%	<25	<10	-	<25	<10	-	<25	<10	-
TRH C15 - C28	mg/kg	100	4000	5360	29%	<100	<100	-	<100	<100	-	520	250	**70%**	990	630	44%
TRH C29 - C36	mg/kg	100	4600	7930	**53%**	<100	<100	-	<100	<100	-	510	280	**58%**	1600	1010	45%
TRH >C10-C16	mg/kg	50	93	90	3%	<50	<50	-	<50	<50	-	<50	<50	-	<50	<50	-
TRH >C10 - C16 less Naphthalen	mg/kg	50	93	90	3%	<50	<50	-	<50	<50	-	<50	<50	-	<50	<50	-
TRH >C16-C34	mg/kg	100	7700	10600	32%	<100	<100	-	<100	<100	-	920	440	**71%**	2200	1290	**52%**
TRH >C34-C40	mg/kg	100	2000	5250	**90%**	<100	<100	-	<100	<100	-	270	170	45%	1100	800	32%
Total +ve TRH (>C10-C40)	mg/kg	50	9700	15900	48%	<50	<50	-	<50	<50	-	1200	610	**65%**	3300	2090	45%
Naphthalene	mg/kg	0.1	1.8	2.2	20%	1.2	0.5	**82%**	0.3	<0.5	18%	1.4	1.6	13%	0.8	1.1	32%
Acenaphthylene	mg/kg	0.1	<1	0.7	33%	<0.1	<0.5	-	<0.1	<0.5	-	0.2	<0.5	22%	0.2	<0.5	22%
Acenaphthene	mg/kg	0.1	15	22.8	41%	0.7	<0.5	**95%**	0.7	<0.5	**95%**	1.9	1.9	0%	3.7	3.7	0%
Fluorene	mg/kg	0.1	7.3	13.1	**57%**	<0.1	<0.5	-	0.1	<0.5	**86%**	1	0.7	35%	1.4	1.4	0%
Phenanthrene	mg/kg	0.1	98	154	44%	2.3	<0.5	**161%**	5.4	0.9	**143%**	14	8.6	48%	24	17.9	29%
Anthracene	mg/kg	0.1	28	47.4	**51%**	0.7	<0.5	**95%**	0.8	<0.5	**105%**	3.1	1.7	**58%**	6.7	4	50%
Fluoranthene	mg/kg	0.1	230	438	**62%**	3.3	<0.5	**172%**	9.9	1	**163%**	34	23.1	38%	60	42.8	33%
Pyrene	mg/kg	0.1	210	410	**65%**	2.9	<0.5	**168%**	9.1	0.9	**164%**	32	21.7	38%	56	39.6	34%
Benzo(a)anthracene	mg/kg	0.1	250	452	**58%**	0.6	<0.5	**82%**	2.8	<0.5	**167%**	31	15.3	**68%**	32	25.3	23%
Chrysene	mg/kg	0.1	210	444	**72%**	0.7	<0.5	**95%**	2.6	<0.5	**165%**	30	18.5	47%	30	26.2	14%
Benzo(b,j+k)fluoranthene	mg/kg	0.2	460	1008	**75%**	0.4	<0.5	46%	3.1	<0.5	**170%**	55	40.8	30%	57	61.8	8%
Benzo(a)pyrene	mg/kg	0.05	**290**	**563**	**64%**	0.2	<0.5	22%	**1.4**	<0.5	**139%**	**29**	**14.2**	**69%**	**36**	**29.4**	20%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	140	395	**95%**	<0.1	<0.5	-	0.3	<0.5	18%	16	9.2	**54%**	18	19.1	6%
Dibenzo(a,h)anthracene	mg/kg	0.1	61	98.3	47%	<0.1	<0.5	-	0.1	<0.5	**86%**	5.9	2.6	**78%**	6.3	4.8	27%
Benzo(g,h,i)perylene	mg/kg	0.1	140	464	**107%**	<0.1	<0.5	-	0.4	<0.5	46%	17	11.9	35%	21	25.2	18%
Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.5	440	856	**64%**	<0.5	<0.5	-	2.2	<0.5	**159%**	46	23.6	**64%**	53	45.3	16%
Benzo(a)pyrene TEQ calc(half)	mg/kg	0.5	440	856	**64%**	<0.5	0.6	**82%**	2.2	0.6	**114%**	46	23.6	**64%**	53	45.3	16%
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	440	856	**64%**	<0.5	1.2	**131%**	2.2	1.2	**59%**	46	23.6	**64%**	53	45.3	16%
Total +ve PAH's	mg/kg	0.5	**2200**	**4510**	**69%**	13	0.5	**185%**	37	2.8	**172%**	**270**	172	44%	**350**	**302**	15%
Arsenic	mg/kg	4	13	10	26%	<4	<5	-	4	<5	46%	7	6	15%	**330**	18	**179%**
Cadmium	mg/kg	0.4	0.7	<1	33%	<0.4	<1	-	<0.4	<1	-	<0.4	<1	-	0.5	<1	0%
Copper	mg/kg		54	43	23%	9	8	12%	6	<5	**82%**	17	18	6%	420	290	37%
Lead	mg/kg		42	30	33%	3	<5	18%	6	<5	**82%**	21	18	15%	**220**	**242**	10%
Molybdenum	mg/kg	1	6	4	40%	1	<2	0%	1	<2	0%	2	2	0%	7	10	35%
Nickel	mg/kg		**85**	**112**	27%	17	13	27%	12	10	18%	36	**53**	**38%**	**44**	**121**	**93%**
Tin	mg/kg	1	4	<5	-	<1	<5	-	<1	<5	-	2	<5	22%	18	11	48%
Zinc	mg/kg		360	254	35%	6	<5	**82%**	23	17	30%	110	82	29%	2300	1620	35%
Free Cyanide in soil	mg/kg	0.5	8.4	<8	**71%**	6.3	<1	**171%**	1	<1	**67%**	3	<1	**143%**	4	1	**120%**
Total Cyanide	mg/kg		140	264	**61%**	47	55	16%	68	72	6%	78	135	54%	160	270	**51%**
Total Fluoride	mg/kg		**24834**	**33000**	28%	**24232**	**57100**	**81%**	**28692**	**23800**	19%	**24719**	**23100**	7%	**29656**	**33900**	13%

Table F3: RPD Asessment of Duplicate CWS Waste Samples - mg/L (ALS Environmental)

Contaminant	Unit	LOR	Primary Sample MW201 - BULK 1st sub-sample	Duplicate Sample QA201	%RPD	Primary Sample MW202 - BULK 1st sub-sample	Duplicate Sample QA202	%RPD	Primary Sample MW203 - BULK 1st sub-sample	Duplicate Sample QA203	%RPD	Primary Sample MW204 - BULK 1st sub-sample	Duplicate Sample QA204	%RPD	Primary Sample MW205 - BULK 1st sub-sample	Duplicate Sample QA205	%RPD
Naphthalene in TCLP	mg/L	0.001	<0.001	<0.001	-	0.021	0.0144	37%	<0.001	0.003	-	0.002	0.002	0%	<0.001	0.0014	-
Acenaphthene in TCLP	mg/L	0.001	<0.001	<0.001	-	0.006	0.0138	**79%**	<0.001	0.0014	-	0.002	0.0032	46%	<0.001	0.0013	-
Fluorene in TCLP	mg/L	0.001	<0.001	<0.001	-	<0.001	0.0044	**-**	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-
Phenanthrene in TCLP	mg/L	0.001	<0.001	<0.001	-	0.006	0.0123	**69%**	<0.001	0.0013	-	0.006	0.0053	12%	0.002	0.0039	**64%**
Anthracene in TCLP	mg/L	0.001	<0.001	<0.001	-	0.001	0.0022	**75%**	<0.001	<0.001	-	0.001	<0.001	**67%**	<0.001	<0.001	**-**
Fluoranthene in TCLP	mg/L	0.001	0.001	<0.001	**67%**	0.001	0.0055	**138%**	<0.001	<0.001	-	0.003	0.0027	11%	0.002	0.0037	**60%**
Pyrene in TCLP	mg/L	0.001	0.001	<0.001	**67%**	0.001	0.0046	**129%**	<0.001	<0.001	-	0.002	0.002	0%	0.001	0.0031	**102%**
Benzo(a)anthracene in TCLP	mg/L	0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-	0.001	<0.001	**67%**	<0.001	<0.001	-
Chrysene in TCLP	mg/L	0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	<0.002	<0.001	-	<0.002	<0.001	-	<0.002	<0.001	-	<0.002	<0.001	-	<0.002	<0.001	-
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	**-**
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	**-**
Total +ve PAHs	mg/L		0.002	<0.005	22%	0.037	0.0572	43%	NIL (+)VE	0.0057	-	0.018	0.0152	17%	0.005	0.0134	**91%**
Tot Cyanide in Neutral Leach (ASLP)	mg/L		4.6	0.91	**134%**	2.5	2.15	15%	9.6	3.68	**89%**	5.9	7.44	23%	7.9	2.6	**101%**
Fluoride in TCLP	mg/L		159.5	134	17%	184.6	262	35%	142	770	**138%**	96.5	682	**150%**	83.4	209	**86%**

Table F3: RPD Asessment of Duplicate CWS Waste Samples - mg/L (ALS Environmental) (continued)

Contaminant	Unit	LOR	Primary Sample MW206 - BULK 1st sub-sample	Duplicate Sample QA206	%RPD	Primary Sample MW201 - 1st sub-sample>125mm	Duplicate Sample QA201>125mm	%RPD	Primary Sample MW203 - 1st sub-sample>125mm	Duplicate Sample QA203>125mm	%RPD	Primary Sample MW201 - 1st sub-sample<125mm	Duplicate Sample QA201<125mm	%RPD	Primary Sample MW203 - 1st sub-sample<125mm	Duplicate Sample QA203<125mm	%RPD
Naphthalene in TCLP	mg/L	0.001	0.001	0.0014	33%	<0.001	<0.001	-	<0.001	<0.001	-	0.001	<0.001	**67%**	0.003	0.0023	26%
Acenaphthene in TCLP	mg/L	0.001	0.002	0.0026	26%	<0.001	<0.001	-	<0.001	<0.001	-	0.002	<0.001	**120%**	0.001	0.0014	33%
Fluorene in TCLP	mg/L	0.001	0.001	0.0015	40%	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	**-**	<0.001	<0.001	-
Phenanthrene in TCLP	mg/L	0.001	0.008	0.0108	30%	<0.001	<0.001	-	<0.001	<0.001	-	0.004	<0.001	**156%**	0.003	0.001	**100%**
Anthracene in TCLP	mg/L	0.001	0.003	0.0031	3%	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	**-**	<0.001	<0.001	**-**
Fluoranthene in TCLP	mg/L	0.001	0.005	0.0082	48%	<0.001	<0.001	-	<0.001	<0.001	-	0.004	<0.001	**156%**	0.001	<0.001	**67%**
Pyrene in TCLP	mg/L	0.001	0.004	0.0064	46%	<0.001	<0.001	-	<0.001	<0.001	-	0.003	<0.001	**143%**	0.001	<0.001	**67%**
Benzo(a)anthracene in TCLP	mg/L	0.001	0.001	<0.001	**67%**	<0.001	<0.001	-	<0.001	<0.001	-	0.001	<0.001	**67%**	<0.001	<0.001	-
Chrysene in TCLP	mg/L	0.001	0.001	<0.001	**67%**	<0.001	<0.001	-	<0.001	<0.001	-	0.002	<0.001	**120%**	<0.001	<0.001	-
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	<0.002	<0.001	-	<0.002	<0.001	-	<0.002	<0.001	-	0.002	<0.001	**120%**	<0.002	<0.001	-
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-	0.001	<0.001	**67%**	<0.001	<0.001	**-**
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	<0.001	<0.001	-	<0.001	<0.001	-	<0.001	<0.001	-	0.001	<0.001	**67%**	<0.001	<0.001	**-**
Total +ve PAHs	mg/L		0.026	0.034	27%	NIL (+)VE	<0.005	-	NIL (+)VE	<0.005	-	0.022	<0.005	**159%**	0.009	0.0047	**63%**
Tot Cyanide in Neutral Leach (ASLP)	mg/L		6.8	2.26	**100%**	2.8	0.079	**189%**	3.1	0.042	**195%**	3.6	1.91	**61%**	7.1	4.22	**51%**
Fluoride in TCLP	mg/L		165.6	788	**131%**	165.9	155	7%	62.8	27	**80%**	129.3	131	1%	62.8	777	**170%**

Table F4: RPD Asessment of Duplicate CWS Waste Samples - mg/L (Eurofins Scientific)

Contaminant	Unit	LOR	Primary Sample	Duplicate Sample		Primary Sample	Duplicate Sample		Primary Sample	Duplicate Sample		Primary Sample	Duplicate Sample		Primary Sample	Duplicate Sample	
			MW201 - BULK 1st sub-sample	QA201	%RPD	MW202 - BULK 1st sub-sample	QA202	%RPD	MW203 - BULK 1st sub-sample	QA203	%RPD	MW204 - BULK 1st sub-sample	QA204	%RPD	MW205 - BULK 1st sub-sample	QA205	%RPD
Total Cyanide in Neutral Leach (ASLP)	mg/L	0.25	4.6	< 0.25	**189%**	2.5	< 0.25	**181%**	9.6	< 0.25	**195%**	5.9	< 0.25	**192%**	7.9	< 0.25	**194%**
Fluoride in TCLP	mg/L	0.2	159.5	48	**107%**	184.6	150	21%	142	280	**65%**	96.5	450	**129%**	83.4	46	**58%**

Table F4: RPD Asessment of Duplicate CWS Waste Samples - mg/L (Eurofins Scientific)

Contaminant	Unit	LOR	Primary Sample	Duplicate Sample		Primary Sample	Duplicate Sample			Duplicate Sample		Primary Sample	Duplicate Sample		Primary Sample	Duplicate Sample	
			MW206 - BULK 1st sub-sample	QA206	%RPD	MW201 - 1st sub-sample<125mm	QA201<125mm	%RPD	MW201 - 1st sub-sample>125mm	QA201>125mm	%RPD	MW203 - 1st sub-sample<125mm	QA203<125mm	%RPD	MW203 - 1st sub-sample>125mm	QA203>125mm	%RPD
Total Cyanide in Neutral Leach (ASLP)	mg/L	0.25	6.8	< 0.25	**193%**	3.6	< 0.25	**187%**	2.8	< 0.25	**183%**	7.1	< 0.25	**193%**	3.1	< 0.25	**184%**
Fluoride in TCLP	mg/L	0.2	165.6	120	32%	129.3	78	49%	165.9	320	**63%**	62.8	57	10%	62.8	180	**97%**

Table F5: RPD Assessment of Duplicate Monolith Eluate (T09) Samples - mg/L (ALS Environmental)

Contaminant	Unit	LOR	Primary Sample MW201_>125 T09	Duplicate Sample 162119-D-9	%RPD	Primary Sample MW202_>125 T09	Duplicate Sample 162119-D-18	%RPD	Primary Sample MW203_>125 T09	Duplicate Sample 162119-D-27	%RPD	Primary Sample MW204_>125 T09	Duplicate Sample 162119-D-36	%RPD	Primary Sample MW205_>125 T09	Duplicate Sample 162119-D-45	%RPD
FILTERED																	
Total Cyanide in Eluates	mg/L	0.004	0.24	0.281	16%	<0.004	<0.004	-	0.27	0.257	5%	0.26	0.22	17%	0.018	0.028	**43%**
Fluoride, F in Eluates	mg/L	0.1	35	35.5	1%	0.4	0.4	0%	130	142	9%	170	190	11%	1.5	1.2	22%

Contaminant	Unit	LOR	Primary Sample MW206_>125 T09	Duplicate Sample 162119-D-54	%RPD	Primary Sample MW201 - 2nd sub-sample>125mm T09	Duplicate Sample 162119-D-153	%RPD	Primary Sample MW202 - 2nd sub-sample>125mm T09	Duplicate Sample 162119-D-162	%RPD	Primary Sample MW203 - 2nd sub-sample>125mm T09	Duplicate Sample 162119-D-171	%RPD	Primary Sample MW204 - 2nd sub-sample>125mm T09	Duplicate Sample 162119-D-180	%RPD
FILTERED																	
Total Cyanide in Eluates	mg/L	0.004	0.21	0.206	2%	0.46	0.448	3%	<0.004	<0.004	-	1.6	1.51	6%	0.45	0.405	11%
Fluoride, F in Eluates	mg/L	0.1	140	160	13%	71	87	20%	0.7	0.9	25%	95	106	11%	110	122	10%

Contaminant	Unit	LOR	Primary Sample MW205 - 2nd sub-sample>125mm T09	Duplicate Sample 162119-D-189	%RPD	Primary Sample MW206 - 2nd sub-sample>125mm T09	Duplicate Sample 162119-D-198	%RPD	Primary Sample MW201 + 50% Lime WET T09	Duplicate Sample 162119-D-207	%RPD	Primary Sample MW202 + 50% Lime WET T09	Duplicate Sample 162119-D-216	%RPD	Primary Sample MW203 + 50% Lime WET T09	Duplicate Sample 162119-D-225	%RPD
FILTERED																	
Total Cyanide in Eluates	mg/L	0.004	0.19	0.199	5%	0.34	0.312	9%	0.011	0.01	10%	0.008	0.008	0%	<0.004	<0.004	-
Fluoride, F in Eluates	mg/L	0.1	150	156	4%	220	494	**77%**	2.6	2.8	7%	3.5	3.1	12%	4	3.5	13%

Contaminant	Unit	LOR	Primary Sample MW204 + 50% Lime WET T09	Duplicate Sample 162119-D-234	%RPD	Primary Sample MW205 + 50% Lime WET T09	Duplicate Sample 162119-D-243	%RPD	Primary Sample MW206 + 50% Lime WET T09	Duplicate Sample 162119-D-252	%RPD	Primary Sample MW201 + 30% Cement WET T09	Duplicate Sample 162119-D-261	%RPD	Primary Sample MW202 + 30% Cement WET T09	Duplicate Sample 162119-D-270	%RPD
FILTERED																	
Total Cyanide in Eluates	mg/L	0.004	0.011	0.012	9%	0.007	0.009	25%	<0.004	0.005	**86%**	0.029	0.025	15%	0.049	0.036	**31%**
Fluoride, F in Eluates	mg/L	0.1	3.7	3.2	14%	3.7	3.2	14%	2.9	2.6	11%	14	13.3	5%	37	39.1	6%

Contaminant	Unit	LOR	Primary Sample MW203+ 30% Cement WET T09	Duplicate Sample 162119-D-279	%RPD	Primary Sample MW204 + 30% Cement WET T09	Duplicate Sample 162119-D-288	%RPD	Primary Sample MW206 + 30% Cement WET T09	Duplicate Sample 162119-D-306	%RPD	Primary Sample SPL_First Cut_1 T09	Duplicate Sample 162119-D-63	%RPD	Primary Sample SPL_First Cut_2 T09	Duplicate Sample 162119-D-72	%RPD
FILTERED																	
Total Cyanide in Eluates	mg/L	0.004	0.08	0.056	**35%**	0.062	0.049	23%	0.079	0.065	19%	0.054	0.037	**37%**	<0.004	<0.004	-
Fluoride, F in Eluates	mg/L	0.1	55	57.6	5%	42	43.3	3%	23	21.2	8%	20	17.4	14%	72	92.7	25%

Contaminant	Unit	LOR	Primary Sample SPL_First Cut_3 T09	Duplicate Sample 162119-D-81	%RPD	Primary Sample SPL_First Cut_4 T09	Duplicate Sample 162119-D-90	%RPD	Primary Sample SPL_First Cut_5 T09	Duplicate Sample 162119-D-99	%RPD	Primary Sample SPL_Second Cut_1 T09	Duplicate Sample 162119-D-108	%RPD	Primary Sample SPL_Second Cut_2 T09	Duplicate Sample 162119-D-117	%RPD
FILTERED																	
Total Cyanide in Eluates	mg/L	0.004	36	35.4	2%	0.016	0.014	13%	<0.004	0.007	**111%**	<0.004	<0.004	-	<0.004	<0.004	-
Fluoride, F in Eluates	mg/L	0.1	26	31.3	18%	61	65	6%	1.3	1.4	7%	0.3	0.2	**40%**	0.6	0.6	0%

Contaminant	Unit	LOR	Primary Sample SPL_Second Cut_3 T09	Duplicate Sample 162119-D-126	%RPD	Primary Sample SPL_Second Cut_4 T09	Duplicate Sample 162119-D-135	%RPD	Primary Sample SPL_Second Cut_5 T09	Duplicate Sample 162119-D-144	%RPD
FILTERED											
Total Cyanide in Eluates	mg/L	0.004	<0.004	<0.004	-	<0.004	<0.004	-	<0.004	<0.004	-
Fluoride, F in Eluates	mg/L	0.1	0.2	0.2	0%	0.3	0.3	0%	0.2	0.1	**67%**

APPENDIX G
LABORATORY REPORTS

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CERTIFICATE OF ANALYSIS 162119

Client Details

Client	Ramboll Environ Australia Pty Ltd
Attention	Fiona Robinson, Stephen Cadman, Craig Goodbody
Address	Level 2, Suite 19B, 50 Glebe Road, PO Box 435, The Junction, NSW, 2261

Sample Details

Your Reference	**Hydro Aluminium AS130515**
Number of Samples	Bulk Waste, Bricks and Fines
Date samples received	16/02/2017
Date completed instructions received	Quote 16SY449

Analysis Details

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

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

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

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

Report Details

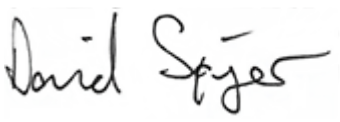
Date results requested by	01/06/2017
Date of Issue	27/06/2017

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Asbestos Approved By
Authorised by Asbestos Approved Signatory: Paul Ching
Results Approved By
Simon Mills,

Authorised By



David Springer, General Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	6	2	<1	<1
Surrogate aaa-Trifluorotoluene	%	88	87	91	92	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	2
Surrogate aaa-Trifluorotoluene	%	87	93	90	89	79

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	28	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	28	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	4	<1
Surrogate aaa-Trifluorotoluene	%	69	97	102	103	103

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	6
Surrogate aaa-Trifluorotoluene	%	94	100	98	95	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	76	68	91	95	91

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	2	<1	<1
Surrogate aaa-Trifluorotoluene	%	91	98	90	89	93

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	2	1	<1	<1
Surrogate aaa-Trifluorotoluene	%	94	92	98	95	95

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	8	1	<1
Surrogate aaa-Trifluorotoluene	%	96	91	94	90	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	7	1
Surrogate aaa-Trifluorotoluene	%	93	90	94	94	88

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	7
Surrogate aaa-Trifluorotoluene	%	89	91	93	91	91

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	92	91	91	93

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	8	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	92	89	93	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	4	1	<1	<1
Surrogate aaa-Trifluorotoluene	%	97	93	88	91	87

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	3	<1	<1
Surrogate aaa-Trifluorotoluene	%	83	91	89	89	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	6	2
Surrogate aaa-Trifluorotoluene	%	83	83	88	85	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	5
Surrogate aaa-Trifluorotoluene	%	88	90	90	70	77

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	79	78	76	76	79

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	2	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	82	82	83	83	82

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	7	1	<1	<1
Surrogate aaa-Trifluorotoluene	%	83	83	84	67	66

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date extracted	-	15/03/2017
Date analysed	-	16/03/2017
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	81

svTRH (C10-C40) in Soil						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	64	<50	58	<50
TRH C_{15} - C_{28}	mg/kg	700	3,200	740	2,300	2,100
TRH C_{29} - C_{36}	mg/kg	690	2,900	1,100	2,800	2,200
TRH >C_{10} -C_{16}	mg/kg	<50	160	<50	89	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	150	<50	89	<50
TRH >C_{16} -C_{34}	mg/kg	1,300	5,400	1,600	4,500	3,900
TRH >C_{34} -C_{40}	mg/kg	350	1,400	760	1,600	1,100
Total +ve TRH (>C10-C40)	mg/kg	1,600	6,900	2,400	6,100	5,000
Surrogate o-Terphenyl	%	104	109	103	111	99

svTRH (C10-C40) in Soil						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	4,000	<100	180	<100	<100
TRH C_{29} - C_{36}	mg/kg	4,600	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	93	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	93	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	7,700	<100	220	<100	<100
TRH >C_{34} -C_{40}	mg/kg	2,000	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	9,700	<50	220	<50	<50
Surrogate o-Terphenyl	%	107	90	99	97	88

svTRH (C10-C40) in Soil						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	74	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	700	<100	520	5,600	990
TRH C_{29} - C_{36}	mg/kg	780	<100	510	4,900	1,600
TRH >C_{10} -C_{16}	mg/kg	<50	69	<50	150	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	69	<50	150	<50
TRH >C_{16} -C_{34}	mg/kg	1,300	<100	920	9,500	2,200
TRH >C_{34} -C_{40}	mg/kg	410	<100	270	1,800	1,100
Total +ve TRH (>C10-C40)	mg/kg	1,700	70	1,200	11,000	3,300
Surrogate o-Terphenyl	%	94	93	102	117	109

svTRH (C10-C40) in Soil						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	64
TRH C_{15} - C_{28}	mg/kg	3,200	4,400	6,900	670	3,100
TRH C_{29} - C_{36}	mg/kg	2,700	4,400	7,800	690	2,800
TRH >C_{10} -C_{16}	mg/kg	74	64	96	<50	150
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	74	64	96	<50	150
TRH >C_{16} -C_{34}	mg/kg	5,300	7,900	13,000	1,200	5,400
TRH >C_{34} -C_{40}	mg/kg	1,400	1,900	3,400	390	1,300
Total +ve TRH (>C10-C40)	mg/kg	6,800	9,900	17,000	1,600	6,900
Surrogate o-Terphenyl	%	120	111	123	95	104

svTRH (C10-C40) in Soil						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	69	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	680	2,200	1,900	4,000	<100
TRH C_{29} - C_{36}	mg/kg	1,100	2,700	2,100	4,600	<100
TRH >C_{10} -C_{16}	mg/kg	<50	85	<50	98	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	85	<50	98	<50
TRH >C_{16} -C_{34}	mg/kg	1,500	4,300	3,600	7,700	<100
TRH >C_{34} -C_{40}	mg/kg	720	1,500	1,000	2,000	<100
Total +ve TRH (>C10-C40)	mg/kg	2,200	5,900	4,600	9,700	<50
Surrogate o-Terphenyl	%	100	106	96	104	73

svTRH (C10-C40) in Soil						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	50
TRH C_{15} - C_{28}	mg/kg	170	<100	<100	690	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	750	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	200	<100	<100	1,300	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	390	<100
Total +ve TRH (>C10-C40)	mg/kg	200	<50	<50	1,700	<50
Surrogate o-Terphenyl	%	98	93	87	93	75

svTRH (C10-C40) in Soil						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	51	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	510	5,600	970	3,500	4,600
TRH C_{29} - C_{36}	mg/kg	500	4,800	1,600	2,900	4,700
TRH >C_{10} -C_{16}	mg/kg	<50	160	<50	89	74
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	150	<50	89	74
TRH >C_{16} -C_{34}	mg/kg	910	9,500	2,200	5,800	8,300
TRH >C_{34} -C_{40}	mg/kg	230	2,000	1,100	1,500	2,000
Total +ve TRH (>C10-C40)	mg/kg	1,100	12,000	3,300	7,400	10,000
Surrogate o-Terphenyl	%	96	#	109	#	#

svTRH (C10-C40) in Soil						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	92	<50	71
TRH C_{15} - C_{28}	mg/kg	7,300	690	2,500	790	2,400
TRH C_{29} - C_{36}	mg/kg	8,000	720	2,200	1,200	2,800
TRH >C_{10} -C_{16}	mg/kg	110	<50	180	<50	100
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	110	<50	180	<50	100
TRH >C_{16} -C_{34}	mg/kg	14,000	1,300	4,200	1,600	4,500
TRH >C_{34} -C_{40}	mg/kg	3,300	400	1,000	780	1,500
Total +ve TRH (>C10-C40)	mg/kg	17,000	1,700	5,400	2,400	6,100
Surrogate o-Terphenyl	%	#	98	123	105	127

svTRH (C10-C40) in Soil						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	54	<50	80	<50
TRH C_{15} - C_{28}	mg/kg	2,200	4,200	930	3,000	830
TRH C_{29} - C_{36}	mg/kg	2,300	4,800	830	2,700	1,200
TRH >C_{10} -C_{16}	mg/kg	58	110	<50	170	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	58	110	<50	160	<50
TRH >C_{16} -C_{34}	mg/kg	4,000	8,000	1,600	5,200	1,700
TRH >C_{34} -C_{40}	mg/kg	1,200	2,100	480	1,300	840
Total +ve TRH (>C10-C40)	mg/kg	5,200	10,000	2,100	6,600	2,600
Surrogate o-Terphenyl	%	104	137	101	125	102

svTRH (C10-C40) in Soil						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	77	<50	<50	<50	67
TRH C_{15} - C_{28}	mg/kg	2,500	2,000	4,100	790	3,100
TRH C_{29} - C_{36}	mg/kg	2,900	2,200	4,600	750	2,700
TRH >C_{10} -C_{16}	mg/kg	110	58	91	<50	150
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	110	58	91	<50	140
TRH >C_{16} -C_{34}	mg/kg	4,700	3,800	7,800	1,400	5,300
TRH >C_{34} -C_{40}	mg/kg	1,500	1,100	2,000	380	1,300
Total +ve TRH (>C10-C40)	mg/kg	6,400	5,000	9,900	1,800	6,700
Surrogate o-Terphenyl	%	123	103	130	96	123

svTRH (C10-C40) in Soil						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	82	<50	58	<50
TRH C_{15} - C_{28}	mg/kg	780	2,400	2,100	4,200	700
TRH C_{29} - C_{36}	mg/kg	1,200	2,900	2,200	4,700	750
TRH >C_{10} -C_{16}	mg/kg	<50	110	60	110	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	110	60	110	<50
TRH >C_{16} -C_{34}	mg/kg	1,700	4,600	3,900	7,900	1,300
TRH >C_{34} -C_{40}	mg/kg	760	1,500	1,100	2,000	450
Total +ve TRH (>C10-C40)	mg/kg	2,400	6,300	5,000	10,000	1,700
Surrogate o-Terphenyl	%	100	123	104	138	97

svTRH (C10-C40) in Soil						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	81	<50	85	<50	<50
TRH C_{15} - C_{28}	mg/kg	3,100	720	2,300	2,000	4,100
TRH C_{29} - C_{36}	mg/kg	2,800	1,100	2,800	2,100	4,600
TRH >C_{10} -C_{16}	mg/kg	170	<50	110	<50	85
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	160	<50	110	<50	85
TRH >C_{16} -C_{34}	mg/kg	5,300	1,600	4,500	3,700	7,800
TRH >C_{34} -C_{40}	mg/kg	1,300	750	1,500	1,000	2,000
Total +ve TRH (>C10-C40)	mg/kg	6,700	2,300	6,100	4,700	9,900
Surrogate o-Terphenyl	%	125	96	121	99	136

svTRH (C10-C40) in Soil						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	16/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	290	1,900	490	1,900	2,300
TRH C_{29} - C_{36}	mg/kg	230	1,700	800	2,300	2,500
TRH >C_{10} -C_{16}	mg/kg	<50	96	<50	51	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	92	<50	51	<50
TRH >C_{16} -C_{34}	mg/kg	480	3,200	1,100	3,600	4,300
TRH >C_{34} -C_{40}	mg/kg	<100	760	570	1,200	1,200
Total +ve TRH (>C10-C40)	mg/kg	480	4,100	1,600	4,900	5,500
Surrogate o-Terphenyl	%	105	118	118	119	116

svTRH (C10-C40) in Soil						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	3,900	420	2,100	580	1,600
TRH C_{29} - C_{36}	mg/kg	4,600	320	1,900	850	1,900
TRH >C_{10} -C_{16}	mg/kg	66	<50	72	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	66	<50	69	<50	<50
TRH >C_{16} -C_{34}	mg/kg	7,600	680	3,600	1,200	3,100
TRH >C_{34} -C_{40}	mg/kg	2,000	130	890	580	1,100
Total +ve TRH (>C10-C40)	mg/kg	9,700	810	4,600	1,800	4,200
Surrogate o-Terphenyl	%	113	115	125	126	128

svTRH (C10-C40) in Soil						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	2,600	3,500	360	2,300	680
TRH C_{29} - C_{36}	mg/kg	2,800	4,100	320	2,100	1,000
TRH >C_{10} -C_{16}	mg/kg	<50	50	<50	83	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	50	<50	77	<50
TRH >C_{16} -C_{34}	mg/kg	4,900	6,800	610	4,000	1,400
TRH >C_{34} -C_{40}	mg/kg	1,400	1,800	150	990	730
Total +ve TRH (>C10-C40)	mg/kg	6,300	8,600	760	5,000	2,200
Surrogate o-Terphenyl	%	134	125	106	113	118

svTRH (C10-C40) in Soil						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	15/03/2017	15/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	2,000	2,600	4,500	140	780
TRH C_{29} - C_{36}	mg/kg	2,400	2,800	5,300	<100	600
TRH >C_{10} -C_{16}	mg/kg	53	<50	65	<50	54
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	53	<50	65	<50	<50
TRH >C_{16} -C_{34}	mg/kg	3,900	4,900	8,700	190	1,300
TRH >C_{34} -C_{40}	mg/kg	1,400	1,400	2,300	<100	220
Total +ve TRH (>C10-C40)	mg/kg	5,300	6,300	11,000	190	1,500
Surrogate o-Terphenyl	%	120	110	115	96	102

svTRH (C10-C40) in Soil						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	15/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	190	760	850	2,100	260
TRH C_{29} - C_{36}	mg/kg	240	650	830	2,300	240
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	360	1,300	1,500	3,900	460
TRH >C_{34} -C_{40}	mg/kg	140	270	320	960	100
Total +ve TRH (>C10-C40)	mg/kg	500	1,500	1,800	4,900	560
Surrogate o-Terphenyl	%	99	105	99	105	116

svTRH (C10-C40) in Soil						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	1,900	450	1,300	1,500	3,800
TRH C_{29} - C_{36}	mg/kg	1,700	500	1,100	1,500	4,500
TRH >C_{10} -C_{16}	mg/kg	54	<50	<50	<50	50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	52	<50	<50	<50	50
TRH >C_{16} -C_{34}	mg/kg	3,300	830	2,200	2,700	7,500
TRH >C_{34} -C_{40}	mg/kg	790	280	550	680	1,900
Total +ve TRH (>C10-C40)	mg/kg	4,200	1,100	2,700	3,400	9,400
Surrogate o-Terphenyl	%	116	108	119	108	119

svTRH (C10-C40) in Soil						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	240	2,000	470	1,300	2,600
TRH C_{29} - C_{36}	mg/kg	200	1,800	600	1,200	2,700
TRH >C_{10} -C_{16}	mg/kg	<50	73	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	66	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	400	3,500	910	2,200	4,700
TRH >C_{34} -C_{40}	mg/kg	<100	840	390	620	1,200
Total +ve TRH (>C10-C40)	mg/kg	400	4,400	1,300	2,800	5,900
Surrogate o-Terphenyl	%	93	104	96	106	103

svTRH (C10-C40) in Soil		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date extracted	-	08/03/2017
Date analysed	-	16/03/2017
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	3,600
TRH C_{29} - C_{36}	mg/kg	4,100
TRH >C_{10} -C_{16}	mg/kg	50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	50
TRH >C_{16} -C_{34}	mg/kg	6,900
TRH >C_{34} -C_{40}	mg/kg	1,900
Total +ve TRH (>C10-C40)	mg/kg	8,800
Surrogate o-Terphenyl	%	103

PAHs in Soil						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	<1	7.7	1.3	3.0	1.7
Acenaphthylene	mg/kg	<1	1.0	<1	1.7	<1
Acenaphthene	mg/kg	2.7	27	4.2	9.2	5.0
Fluorene	mg/kg	1.3	10	1.4	4.3	4.0
Phenanthrene	mg/kg	17	120	16	79	51
Anthracene	mg/kg	5.9	28	5.8	15	14
Fluoranthene	mg/kg	52	240	43	140	140
Pyrene	mg/kg	52	230	41	130	130
Benzo(a)anthracene	mg/kg	46	190	27	91	160
Chrysene	mg/kg	51	150	21	73	120
Benzo(b,j+k)fluoranthene	mg/kg	100	320	45	150	300
Benzo(a)pyrene	mg/kg	41	210	25	85	160
Indeno(1,2,3-c,d)pyrene	mg/kg	22	95	11	38	73
Dibenzo(a,h)anthracene	mg/kg	6.0	24	3.0	10	24
Benzo(g,h,i)perylene	mg/kg	26	100	14	42	78
Benzo(a)pyrene TEQ calc (zero)	mg/kg	65	300	37	120	230
Benzo(a)pyrene TEQ calc(half)	mg/kg	65	300	37	120	230
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	65	300	37	120	230
Total +ve PAH's	mg/kg	430	1,800	260	860	1,300
Surrogate p-Terphenyl-d14	%	101	101	91	93	99

PAHs in Soil						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	1.8	1.2	0.2	0.3	3.2
Acenaphthylene	mg/kg	<1	<0.1	0.1	<0.1	<0.1
Acenaphthene	mg/kg	15	0.7	3.0	0.7	2.6
Fluorene	mg/kg	7.3	<0.1	1.1	0.1	0.1
Phenanthrene	mg/kg	98	2.3	18	5.4	3.2
Anthracene	mg/kg	28	0.7	5.0	0.8	0.3
Fluoranthene	mg/kg	230	3.3	20	9.9	1.7
Pyrene	mg/kg	210	2.9	17	9.1	1.4
Benzo(a)anthracene	mg/kg	250	0.6	10	2.8	0.2
Chrysene	mg/kg	210	0.7	9.2	2.6	0.2
Benzo(b,j+k)fluoranthene	mg/kg	460	0.4	15	3.1	<0.2
Benzo(a)pyrene	mg/kg	290	0.2	7.3	1.4	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	140	<0.1	2.2	0.3	<0.1
Dibenzo(a,h)anthracene	mg/kg	61	<0.1	1	0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	140	<0.1	2.2	0.4	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	440	<0.5	11	2.2	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	440	<0.5	11	2.2	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	440	<0.5	11	2.2	<0.5
Total +ve PAH's	mg/kg	2,200	13	110	37	13
Surrogate p-Terphenyl-d14	%	93	110	81	70	70

PAHs in Soil						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	0.4	1.2	1.4	4.0	0.8
Acenaphthylene	mg/kg	<0.1	<0.1	0.2	1.3	0.2
Acenaphthene	mg/kg	1.7	0.8	1.9	31	3.7
Fluorene	mg/kg	0.7	0.3	1.0	15	1.4
Phenanthrene	mg/kg	13	3.2	14	170	24
Anthracene	mg/kg	3.4	0.9	3.1	33	6.7
Fluoranthene	mg/kg	33	6.6	34	310	60
Pyrene	mg/kg	33	6.0	32	300	56
Benzo(a)anthracene	mg/kg	37	3.4	31	280	32
Chrysene	mg/kg	36	2.8	30	230	30
Benzo(b,j+k)fluoranthene	mg/kg	67	3.0	55	460	57
Benzo(a)pyrene	mg/kg	43	1.3	29	310	36
Indeno(1,2,3-c,d)pyrene	mg/kg	25	0.2	16	160	18
Dibenzo(a,h)anthracene	mg/kg	11	0.1	5.9	43	6.3
Benzo(g,h,i)perylene	mg/kg	27	0.2	17	170	21
Benzo(a)pyrene TEQ calc (zero)	mg/kg	68	2.1	46	450	53
Benzo(a)pyrene TEQ calc(half)	mg/kg	68	2.1	46	450	53
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	68	2.1	46	450	53
Total +ve PAH's	mg/kg	330	30	270	2,500	350
Surrogate p-Terphenyl-d14	%	84	135	104	105	101

PAHs in Soil						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	2.9	4.2	1.7	0.6	8.0
Acenaphthylene	mg/kg	3.3	1.7	<1	0.2	<1
Acenaphthene	mg/kg	12	11	20	2.0	28
Fluorene	mg/kg	6.4	8.3	9.8	1.1	11
Phenanthrene	mg/kg	120	120	160	14	120
Anthracene	mg/kg	25	29	53	3.8	29
Fluoranthene	mg/kg	240	270	450	45	240
Pyrene	mg/kg	220	250	420	42	230
Benzo(a)anthracene	mg/kg	160	260	420	34	200
Chrysene	mg/kg	140	220	450	38	150
Benzo(b,j+k)fluoranthene	mg/kg	270	470	810	75	340
Benzo(a)pyrene	mg/kg	150	290	430	35	220
Indeno(1,2,3-c,d)pyrene	mg/kg	71	140	260	21	98
Dibenzo(a,h)anthracene	mg/kg	21	44	100	7.9	27
Benzo(g,h,i)perylene	mg/kg	76	140	260	23	110
Benzo(a)pyrene TEQ calc (zero)	mg/kg	230	420	690	57	310
Benzo(a)pyrene TEQ calc(half)	mg/kg	230	420	690	57	310
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	230	420	690	57	310
Total +ve PAH's	mg/kg	1,500	2,200	3,800	340	1,800
Surrogate p-Terphenyl-d14	%	97	97	104	96	105

PAHs in Soil						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	1.2	2.5	1.3	1.9	0.5
Acenaphthylene	mg/kg	0.2	1.6	<1	<1	<0.1
Acenaphthene	mg/kg	3.7	8.6	4.7	16	0.2
Fluorene	mg/kg	1.3	4.4	3.4	8.5	<0.1
Phenanthrene	mg/kg	17	77	44	100	0.2
Anthracene	mg/kg	4.3	12	13	32	<0.1
Fluoranthene	mg/kg	40	130	110	240	0.2
Pyrene	mg/kg	37	110	100	220	0.1
Benzo(a)anthracene	mg/kg	23	72	110	260	<0.1
Chrysene	mg/kg	20	78	110	220	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	41	130	230	500	<0.2
Benzo(a)pyrene	mg/kg	24	67	110	310	0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	11	34	58	130	<0.1
Dibenzo(a,h)anthracene	mg/kg	2.9	13	18	62	<0.1
Benzo(g,h,i)perylene	mg/kg	13	37	60	140	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	34	100	170	460	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	34	100	170	460	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	34	100	170	460	<0.5
Total +ve PAH's	mg/kg	240	780	970	2,200	1.2
Surrogate p-Terphenyl-d14	%	93	95	90	95	#

PAHs in Soil						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	0.1	0.2	3.4	0.4	0.5
Acenaphthylene	mg/kg	0.2	<0.1	<0.1	0.1	<0.1
Acenaphthene	mg/kg	2.7	0.4	2.8	1.8	0.1
Fluorene	mg/kg	1.0	<0.1	0.1	0.7	<0.1
Phenanthrene	mg/kg	17	4.2	3.7	13	<0.1
Anthracene	mg/kg	4.9	0.8	0.5	3.4	<0.1
Fluoranthene	mg/kg	20	7.7	2.1	470	0.1
Pyrene	mg/kg	17	7.0	1.6	47	<0.1
Benzo(a)anthracene	mg/kg	10	2.2	0.2	43	<0.1
Chrysene	mg/kg	8.6	1.6	0.3	44	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	14	2.0	<0.2	80	<0.2
Benzo(a)pyrene	mg/kg	6.9	0.95	<0.05	44	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	1.9	0.2	<0.1	28	<0.1
Dibenzo(a,h)anthracene	mg/kg	0.8	<0.1	<0.1	12	<0.1
Benzo(g,h,i)perylene	mg/kg	1.9	0.3	<0.1	30	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	11	1.4	<0.5	72	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	11	1.4	<0.5	72	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	11	1.4	<0.5	72	<0.5
Total +ve PAH's	mg/kg	110	27	15	820	0.67
Surrogate p-Terphenyl-d14	%	89	74	#	90	#

PAHs in Soil						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	0.3	3.7	1.1	2.8	3.7
Acenaphthylene	mg/kg	0.2	1.3	0.2	3.4	1.6
Acenaphthene	mg/kg	1.9	32	3.9	13	11
Fluorene	mg/kg	0.8	16	1.6	7.2	7.9
Phenanthrene	mg/kg	13	170	23	140	110
Anthracene	mg/kg	3.7	37	5.9	28	27
Fluoranthene	mg/kg	42	340	41	270	260
Pyrene	mg/kg	40	330	40	240	240
Benzo(a)anthracene	mg/kg	32	280	30	170	250
Chrysene	mg/kg	32	230	27	160	230
Benzo(b,j+k)fluoranthene	mg/kg	61	480	56	300	490
Benzo(a)pyrene	mg/kg	30	310	33	170	300
Indeno(1,2,3-c,d)pyrene	mg/kg	16	150	17	81	140
Dibenzo(a,h)anthracene	mg/kg	6.2	43	5.9	24	60
Benzo(g,h,i)perylene	mg/kg	18	170	19	87	150
Benzo(a)pyrene TEQ calc (zero)	mg/kg	48	450	49	250	450
Benzo(a)pyrene TEQ calc(half)	mg/kg	48	450	49	250	450
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	48	450	49	250	450
Total +ve PAH's	mg/kg	300	2,600	300	1,700	2,300
Surrogate p-Terphenyl-d14	%	103	102	99	117	97

PAHs in Soil						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	2.2	0.4	7.6	1.7	2.3
Acenaphthylene	mg/kg	1.1	0.2	2.1	0.1	1.1
Acenaphthene	mg/kg	20	1.9	29	4.2	9.1
Fluorene	mg/kg	10	0.9	11	1.7	4.6
Phenanthrene	mg/kg	150	12	120	21	81
Anthracene	mg/kg	48	3.0	30	5.5	13
Fluoranthene	mg/kg	360	47	220	47	130
Pyrene	mg/kg	340	45	210	45	120
Benzo(a)anthracene	mg/kg	420	40	190	22	73
Chrysene	mg/kg	350	41	120	22	75
Benzo(b,j+k)fluoranthene	mg/kg	730	83	290	42	130
Benzo(a)pyrene	mg/kg	470	38	190	23	67
Indeno(1,2,3-c,d)pyrene	mg/kg	250	22	82	11	29
Dibenzo(a,h)anthracene	mg/kg	110	8.2	19	3.3	11
Benzo(g,h,i)perylene	mg/kg	250	24	91	13	32
Benzo(a)pyrene TEQ calc (zero)	mg/kg	730	61	270	35	100
Benzo(a)pyrene TEQ calc(half)	mg/kg	730	61	270	35	100
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	730	61	270	35	100
Total +ve PAH's	mg/kg	3,500	370	1,600	260	780
Surrogate p-Terphenyl-d14	%	99	98	110	90	91

PAHs in Soil						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	1.4	1.9	<1	8.5	1.8
Acenaphthylene	mg/kg	1.4	1.1	<1	<1	<1
Acenaphthene	mg/kg	5.9	16	2.3	28	5.2
Fluorene	mg/kg	4.7	8.6	1.4	9.4	2.3
Phenanthrene	mg/kg	58	110	18	110	26
Anthracene	mg/kg	17	34	4.2	27	6.1
Fluoranthene	mg/kg	170	260	89	210	55
Pyrene	mg/kg	160	240	85	200	51
Benzo(a)anthracene	mg/kg	210	300	62	160	31
Chrysene	mg/kg	150	240	69	150	25
Benzo(b,j+k)fluoranthene	mg/kg	380	560	120	290	52
Benzo(a)pyrene	mg/kg	210	340	45	180	31
Indeno(1,2,3-c,d)pyrene	mg/kg	90	160	22	83	14
Dibenzo(a,h)anthracene	mg/kg	35	54	8.3	24	3.7
Benzo(g,h,i)perylene	mg/kg	98	160	25	91	16
Benzo(a)pyrene TEQ calc (zero)	mg/kg	310	500	75	260	44
Benzo(a)pyrene TEQ calc(half)	mg/kg	310	500	75	260	44
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	310	500	75	260	44
Total +ve PAH's	mg/kg	1,600	2,500	550	1,600	320
Surrogate p-Terphenyl-d14	%	122	108	98	97	99

PAHs in Soil						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	3.1	1.2	2.0	0.3	7.0
Acenaphthylene	mg/kg	1.6	1.1	<1	0.2	1.5
Acenaphthene	mg/kg	10	4.8	16	2.3	26
Fluorene	mg/kg	5.3	4.0	8.1	1.1	10
Phenanthrene	mg/kg	69	51	100	14	120
Anthracene	mg/kg	16	18	33	3.3	29
Fluoranthene	mg/kg	71	140	230	57	240
Pyrene	mg/kg	69	130	210	56	230
Benzo(a)anthracene	mg/kg	69	170	250	54	210
Chrysene	mg/kg	60	130	220	61	150
Benzo(b,j+k)fluoranthene	mg/kg	110	310	500	120	330
Benzo(a)pyrene	mg/kg	70	170	300	45	220
Indeno(1,2,3-c,d)pyrene	mg/kg	34	81	140	25	100
Dibenzo(a,h)anthracene	mg/kg	13	31	62	9.9	28
Benzo(g,h,i)perylene	mg/kg	37	87	140	28	110
Benzo(a)pyrene TEQ calc (zero)	mg/kg	110	260	450	76	310
Benzo(a)pyrene TEQ calc(half)	mg/kg	110	260	450	76	310
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	110	260	450	76	310
Total +ve PAH's	mg/kg	640	1,300	2,200	480	1,800
Surrogate p-Terphenyl-d14	%	97	110	101	105	107

PAHs in Soil						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	1.9	2.4	1.5	2.4	1.3
Acenaphthylene	mg/kg	0.2	1.1	1.4	<1	<1
Acenaphthene	mg/kg	5.0	9.1	5.6	17	1.8
Fluorene	mg/kg	2.4	4.5	4.4	9.5	1.1
Phenanthrene	mg/kg	24	81	53	120	13
Anthracene	mg/kg	5.8	14	16	34	3.6
Fluoranthene	mg/kg	49	140	140	250	51
Pyrene	mg/kg	45	120	130	230	49
Benzo(a)anthracene	mg/kg	24	82	170	270	45
Chrysene	mg/kg	24	78	130	240	49
Benzo(b,j+k)fluoranthene	mg/kg	46	140	320	530	100
Benzo(a)pyrene	mg/kg	26	76	170	320	35
Indeno(1,2,3-c,d)pyrene	mg/kg	12	35	77	140	19
Dibenzo(a,h)anthracene	mg/kg	4.4	13	27	66	7.3
Benzo(g,h,i)perylene	mg/kg	14	37	84	150	21
Benzo(a)pyrene TEQ calc (zero)	mg/kg	39	120	250	480	59
Benzo(a)pyrene TEQ calc(half)	mg/kg	39	120	250	480	59
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	39	120	250	480	59
Total +ve PAH's	mg/kg	280	830	1,300	2,400	400
Surrogate p-Terphenyl-d14	%	91	89	109	105	93

PAHs in Soil						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Naphthalene	mg/kg	6.9	1.7	2.3	<1	2.0
Acenaphthylene	mg/kg	<1	<1	2.1	<1	1.1
Acenaphthene	mg/kg	27	4.6	9.4	6.1	18
Fluorene	mg/kg	10	1.9	4.6	4.4	9.7
Phenanthrene	mg/kg	120	22	80	52	120
Anthracene	mg/kg	29	6.6	16	17	35
Fluoranthene	mg/kg	230	54	140	130	290
Pyrene	mg/kg	210	50	120	130	260
Benzo(a)anthracene	mg/kg	180	34	96	140	350
Chrysene	mg/kg	150	24	71	130	250
Benzo(b,j+k)fluoranthene	mg/kg	300	50	140	280	620
Benzo(a)pyrene	mg/kg	190	28	84	150	390
Indeno(1,2,3-c,d)pyrene	mg/kg	88	13	39	69	190
Dibenzo(a,h)anthracene	mg/kg	25	3.6	11	29	80
Benzo(g,h,i)perylene	mg/kg	97	15	43	72	190
Benzo(a)pyrene TEQ calc (zero)	mg/kg	280	42	120	220	590
Benzo(a)pyrene TEQ calc(half)	mg/kg	280	42	120	220	590
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	280	42	120	220	590
Total +ve PAH's	mg/kg	1,700	310	870	1,200	2,800
Surrogate p-Terphenyl-d14	%	101	112	101	101	117

PAHs in Soil						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Date analysed	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Naphthalene	mg/kg	0.7	4.1	1.5	1.7	1.4
Acenaphthylene	mg/kg	<1	<1	<1	<1	<1
Acenaphthene	mg/kg	2.2	15	2.1	7.7	5.6
Fluorene	mg/kg	1.0	5.3	0.4	3.5	3.6
Phenanthrene	mg/kg	10	65	5.9	61	59
Anthracene	mg/kg	3.0	14	1.0	8.3	16
Fluoranthene	mg/kg	26	150	21	130	140
Pyrene	mg/kg	24	150	22	110	140
Benzo(a)anthracene	mg/kg	14	120	9.9	66	130
Chrysene	mg/kg	21	98	12	66	120
Benzo(b,j+k)fluoranthene	mg/kg	41	220	24	140	260
Benzo(a)pyrene	mg/kg	16	150	14	81	170
Indeno(1,2,3-c,d)pyrene	mg/kg	8.6	77	7.0	40	100
Dibenzo(a,h)anthracene	mg/kg	2.8	19	1.2	9.4	31
Benzo(g,h,i)perylene	mg/kg	11	91	9.2	46	110
Benzo(a)pyrene TEQ calc (zero)	mg/kg	25	210	19	120	250
Benzo(a)pyrene TEQ calc(half)	mg/kg	25	210	19	120	250
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	25	210	19	120	250
Total +ve PAH's	mg/kg	180	1,200	130	770	1,300
Surrogate p-Terphenyl-d14	%	99	108	97	106	106

PAHs in Soil						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Date analysed	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Naphthalene	mg/kg	1.4	<1	5.0	1.1	1.1
Acenaphthylene	mg/kg	<1	<1	<1	<1	<1
Acenaphthene	mg/kg	13	1.5	15	2.5	5.4
Fluorene	mg/kg	6.5	<1	5.8	0.7	2.5
Phenanthrene	mg/kg	62	9.3	75	9.3	50
Anthracene	mg/kg	29	1.9	18	1.9	8.3
Fluoranthene	mg/kg	220	43	180	32	110
Pyrene	mg/kg	210	41	190	31	100
Benzo(a)anthracene	mg/kg	270	27	170	22	59
Chrysene	mg/kg	210	34	130	18	59
Benzo(b,j+k)fluoranthene	mg/kg	540	68	290	39	120
Benzo(a)pyrene	mg/kg	340	24	200	24	74
Indeno(1,2,3-c,d)pyrene	mg/kg	160	12	95	12	37
Dibenzo(a,h)anthracene	mg/kg	56	2.8	24	2.3	10
Benzo(g,h,i)perylene	mg/kg	170	14	110	15	42
Benzo(a)pyrene TEQ calc (zero)	mg/kg	500	38	280	33	110
Benzo(a)pyrene TEQ calc(half)	mg/kg	500	38	280	33	110
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	500	38	280	33	110
Total +ve PAH's	mg/kg	2,300	280	1,500	210	690
Surrogate p-Terphenyl-d14	%	109	112	140	119	119

PAHs in Soil						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Date analysed	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Naphthalene	mg/kg	2.1	1.0	0.8	4.3	1.6
Acenaphthylene	mg/kg	<1	<1	<1	<1	<1
Acenaphthene	mg/kg	6.5	12	3.4	17	3.3
Fluorene	mg/kg	4.2	5.6	1.4	5.9	<1
Phenanthrene	mg/kg	61	86	14	82	13
Anthracene	mg/kg	14	27	3.0	17	2.5
Fluoranthene	mg/kg	160	190	40	180	41
Pyrene	mg/kg	160	190	38	190	38
Benzo(a)anthracene	mg/kg	170	210	29	150	21
Chrysene	mg/kg	160	190	30	130	22
Benzo(b,j+k)fluoranthene	mg/kg	370	460	65	250	46
Benzo(a)pyrene	mg/kg	250	300	27	210	29
Indeno(1,2,3-c,d)pyrene	mg/kg	130	190	15	110	14
Dibenzo(a,h)anthracene	mg/kg	38	63	4.1	28	3.4
Benzo(g,h,i)perylene	mg/kg	130	190	18	130	17
Benzo(a)pyrene TEQ calc (zero)	mg/kg	350	450	43	290	40
Benzo(a)pyrene TEQ calc(half)	mg/kg	350	450	43	290	40
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	350	450	43	290	40
Total +ve PAH's	mg/kg	1,700	2,100	290	1,500	250
Surrogate p-Terphenyl-d14	%	117	129	126	119	113

PAHs in Soil						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Date analysed	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Naphthalene	mg/kg	1.5	2.1	1.2	0.3	2.9
Acenaphthylene	mg/kg	<1	<1	<1	<0.1	<1
Acenaphthene	mg/kg	7.8	7.4	16	0.8	8.7
Fluorene	mg/kg	3.4	4.7	7.8	0.3	3.4
Phenanthrene	mg/kg	68	72	120	5.8	33
Anthracene	mg/kg	12	16	37	1.6	5.4
Fluoranthene	mg/kg	140	180	280	17	89
Pyrene	mg/kg	120	190	280	16	86
Benzo(a)anthracene	mg/kg	74	220	350	13	67
Chrysene	mg/kg	71	180	280	13	52
Benzo(b,j+k)fluoranthene	mg/kg	150	380	690	29	110
Benzo(a)pyrene	mg/kg	87	280	440	9.8	76
Indeno(1,2,3-c,d)pyrene	mg/kg	44	130	310	6.0	37
Dibenzo(a,h)anthracene	mg/kg	12	39	140	2.0	9.3
Benzo(g,h,i)perylene	mg/kg	49	130	330	7.0	41
Benzo(a)pyrene TEQ calc (zero)	mg/kg	130	390	720	17	110
Benzo(a)pyrene TEQ calc(half)	mg/kg	130	390	720	17	110
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	130	390	720	17	110
Total +ve PAH's	mg/kg	840	1,800	3,300	120	620
Surrogate p-Terphenyl-d14	%	107	121	123	109	116

PAHs in Soil						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Date analysed	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Naphthalene	mg/kg	<1	1.6	<1	<1	0.2
Acenaphthylene	mg/kg	<1	<1	<1	<1	<0.1
Acenaphthene	mg/kg	1.7	4.9	2.6	7.7	1
Fluorene	mg/kg	0.5	2.3	1.6	3.5	0.4
Phenanthrene	mg/kg	7.0	36	21	48	7.7
Anthracene	mg/kg	1.0	4.4	4.7	14	1.9
Fluoranthene	mg/kg	20	83	79	140	23
Pyrene	mg/kg	20	74	76	140	22
Benzo(a)anthracene	mg/kg	9.8	47	82	150	20
Chrysene	mg/kg	11	41	65	130	18
Benzo(b,j+k)fluoranthene	mg/kg	20	75	140	320	39
Benzo(a)pyrene	mg/kg	13	46	91	210	17
Indeno(1,2,3-c,d)pyrene	mg/kg	5.6	22	45	94	11
Dibenzo(a,h)anthracene	mg/kg	<0.1	5.4	13	29	3.7
Benzo(g,h,i)perylene	mg/kg	6.9	25	47	94	12
Benzo(a)pyrene TEQ calc (zero)	mg/kg	16	67	130	300	28
Benzo(a)pyrene TEQ calc(half)	mg/kg	16	67	130	300	28
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	16	67	130	300	28
Total +ve PAH's	mg/kg	120	470	670	1,400	180
Surrogate p-Terphenyl-d14	%	103	107	112	107	112

PAHs in Soil						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Date analysed	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Naphthalene	mg/kg	2.7	1.2	2.1	1.7	1.7
Acenaphthylene	mg/kg	<1	<1	<1	<1	<1
Acenaphthene	mg/kg	13	3.6	7.0	4.7	14
Fluorene	mg/kg	5.2	1.8	3.9	3.3	6.8
Phenanthrene	mg/kg	68	17	66	45	100
Anthracene	mg/kg	11	3.8	12	9.7	31
Fluoranthene	mg/kg	190	43	130	130	230
Pyrene	mg/kg	180	42	120	130	250
Benzo(a)anthracene	mg/kg	130	20	82	110	290
Chrysene	mg/kg	120	23	67	110	240
Benzo(b,j+k)fluoranthene	mg/kg	270	44	140	230	570
Benzo(a)pyrene	mg/kg	190	28	83	160	370
Indeno(1,2,3-c,d)pyrene	mg/kg	92	13	42	71	190
Dibenzo(a,h)anthracene	mg/kg	23	3.3	11	21	62
Benzo(g,h,i)perylene	mg/kg	100	16	47	73	200
Benzo(a)pyrene TEQ calc (zero)	mg/kg	260	39	120	220	540
Benzo(a)pyrene TEQ calc(half)	mg/kg	260	39	120	220	540
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	260	39	120	220	540
Total +ve PAH's	mg/kg	1,400	260	810	1,100	2,600
Surrogate p-Terphenyl-d14	%	117	112	117	120	127

PAHs in Soil						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Date analysed	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Naphthalene	mg/kg	0.6	4.2	2.2	1.7	2.7
Acenaphthylene	mg/kg	<1	<1	<1	<1	<1
Acenaphthene	mg/kg	1.6	16	3.6	7.1	7.7
Fluorene	mg/kg	0.5	5.1	0.9	3.0	4.9
Phenanthrene	mg/kg	8.2	81	13	54	76
Anthracene	mg/kg	1.8	14	2.4	6.2	18
Fluoranthene	mg/kg	23	220	42	120	190
Pyrene	mg/kg	22	210	41	110	200
Benzo(a)anthracene	mg/kg	19	150	22	76	230
Chrysene	mg/kg	20	140	21	63	180
Benzo(b,j+k)fluoranthene	mg/kg	43	300	42	130	430
Benzo(a)pyrene	mg/kg	15	210	27	77	280
Indeno(1,2,3-c,d)pyrene	mg/kg	9.0	100	12	39	140
Dibenzo(a,h)anthracene	mg/kg	3.3	26	2.2	9.2	43
Benzo(g,h,i)perylene	mg/kg	11	110	15	43	150
Benzo(a)pyrene TEQ calc (zero)	mg/kg	25	300	37	110	410
Benzo(a)pyrene TEQ calc(half)	mg/kg	25	300	37	110	410
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	25	300	37	110	410
Total +ve PAH's	mg/kg	180	1,600	250	740	2,000
Surrogate p-Terphenyl-d14	%	117	116	108	107	112

PAHs in Soil		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date extracted	-	16/03/2017
Date analysed	-	15/03/2017
Naphthalene	mg/kg	<1
Acenaphthylene	mg/kg	<1
Acenaphthene	mg/kg	14
Fluorene	mg/kg	6.7
Phenanthrene	mg/kg	110
Anthracene	mg/kg	26
Fluoranthene	mg/kg	240
Pyrene	mg/kg	240
Benzo(a)anthracene	mg/kg	300
Chrysene	mg/kg	270
Benzo(b,j+k)fluoranthene	mg/kg	560
Benzo(a)pyrene	mg/kg	360
Indeno(1,2,3-c,d)pyrene	mg/kg	190
Dibenzo(a,h)anthracene	mg/kg	63
Benzo(g,h,i)perylene	mg/kg	190
Benzo(a)pyrene TEQ calc (zero)	mg/kg	530
Benzo(a)pyrene TEQ calc(half)	mg/kg	530
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	530
Total +ve PAH's	mg/kg	2,600
Surrogate p-Terphenyl-d14	%	119

Organochlorine Pesticides in soil						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	125	94	86	82	97

Organochlorine Pesticides in soil						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	116	#	110	79	#

Organochlorine Pesticides in soil						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	111	68	137	105	119

Organochlorine Pesticides in soil						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	113	99	92	133	98

Organochlorine Pesticides in soil						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	75	102	93	93	#

Organochlorine Pesticides in soil						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	95	90	#	109	#

Organochlorine Pesticides in soil						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	130	117	90	101	114

Organochlorine Pesticides in soil						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	122	120	79	110

Organochlorine Pesticides in soil						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.2	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	117	100	90	99	78

Organochlorine Pesticides in soil						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.5	<0.1	<0.1	<0.2	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	120	108	102	80	127

Organochlorine Pesticides in soil						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.5	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	76	107	120	99

Organochlorine Pesticides in soil						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	94	100	110	117	109

Organochlorine Pesticides in soil						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	97	95	95	97	99

Organochlorine Pesticides in soil						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	126	109	111	110

Organochlorine Pesticides in soil						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	113	118	107	88	94

Organochlorine Pesticides in soil						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	98	92	96	97

Organochlorine Pesticides in soil						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	97	97	98	98	118

Organochlorine Pesticides in soil						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Surrogate TCMX	%	112	105	109	108	110

Organochlorine Pesticides in soil						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	87	88	89	86

Organochlorine Pesticides in soil		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date extracted	-	08/03/2017
Date analysed	-	16/03/2017
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	81

Organophosphorus Pesticides						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	125	94	86	82	97

Organophosphorus Pesticides						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/217	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.5	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	116	#	110	79	#

Organophosphorus Pesticides						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<1	<0.5	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	111	68	137	105	119

Organophosphorus Pesticides						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.3	<0.1	<0.1	<2	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	113	99	92	133	98

Organophosphorus Pesticides						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	75	102	93	93	#

Organophosphorus Pesticides						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	95	90	#	109	#

Organophosphorus Pesticides						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.5	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	130	117	90	101	114

Organophosphorus Pesticides						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.2	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<1	<0.1	<0.1	<2
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	122	120	79	110

Organophosphorus Pesticides						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.2	<0.5	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<2	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	117	100	90	99	78

Organophosphorus Pesticides						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<1	<0.5	<0.5	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<2	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	120	108	102	80	127

Organophosphorus Pesticides						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/217	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<1	<0.5	<1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.2
Dichlorvos	mg/kg	<0.1	<2	<0.1	<2	<1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	76	107	120	99

Organophosphorus Pesticides						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<1	<0.1	<0.1	<0.5	<0.2
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	94	100	110	117	109

Organophosphorus Pesticides						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	97	95	95	97	99

Organophosphorus Pesticides						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Azinphos-methyl (Guthion)	mg/kg	<1	<0.1	<2	<0.1	<0.5
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	126	109	111	110

Organophosphorus Pesticides						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<2	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	113	118	107	88	94

Organophosphorus Pesticides						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<1	<0.1	<0.5
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	100	98	92	96	97

Organophosphorus Pesticides						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	97	97	98	98	118

Organophosphorus Pesticides						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Azinphos-methyl (Guthion)	mg/kg	<1	<0.5	<1	<0.5	<1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<1
Surrogate TCMX	%	112	105	109	108	110

Organophosphorus Pesticides						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.2	<1	<0.1	<0.1	<1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	92	87	88	89	86

Organophosphorus Pesticides		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date extracted	-	08/03/2017
Date analysed	-	16/03/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Dichlorvos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Ethion	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Parathion	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Surrogate TCMX	%	81

SVOCs in Soil						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Bis-(2-chloroethyl) ether	mg/kg	<1	<1	<1	<1	<1
2-Chlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-Methylphenol	mg/kg	<1	<1	<1	<1	<1
Nitrobenzene	mg/kg	<1	<1	<1	<1	<1
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylphthalate	mg/kg	<1	<1	<1	<1	<1
2,6-Dinitrotoluene	mg/kg	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
4-nitrophenol	mg/kg	<10	<10	<10	<10	<10
diethylphthalate	mg/kg	<1	<1	<1	<1	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
di-n-butylphthalate	mg/kg	<1	<1	<1	<1	<1
butylbenzylphthalate	mg/kg	<1	<1	<1	<1	<1
bis(2-ethylhexyl)phthalate	mg/kg	3	6	1	3	2
di-n-octylphthalate	mg/kg	<1	<1	<1	<1	<1
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate Phenol-d_6	%	74	75	104	104	90
Surrogate Nitrobenzene-d_5	%	56	64	101	92	74
Surrogate 2-fluorobiphenyl	%	83	93	88	84	88
Surrogate 2,4,6-Tribromophenol	%	94	86	30	51	#
Surrogate p-Terphenyl-d_{14}	%	97	100	96	96	96

SVOCs in Soil						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Bis-(2-chloroethyl) ether	mg/kg	<1	<1	<1	<1	<1
2-Chlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-Methylphenol	mg/kg	<1	<1	<1	<1	<1
Nitrobenzene	mg/kg	<1	<1	<1	<1	<1
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylphthalate	mg/kg	<1	<1	<1	<1	<1
2,6-Dinitrotoluene	mg/kg	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
4-nitrophenol	mg/kg	<10	<10	<10	<10	<10
diethylphthalate	mg/kg	<1	<1	<1	<1	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
di-n-butylphthalate	mg/kg	<1	<1	<1	<1	<1
butylbenzylphthalate	mg/kg	<1	<1	<1	<1	<1
bis(2-ethylhexyl)phthalate	mg/kg	3	2	5	<1	2
di-n-octylphthalate	mg/kg	<1	<1	<1	<1	<1
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate Phenol-d_6	%	72	63	71	58	53
Surrogate Nitrobenzene-d_5	%	88	53	54	25	60
Surrogate 2-fluorobiphenyl	%	89	90	92	83	81
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	94
Surrogate p-Terphenyl-d_{14}	%	94	46	106	73	44

SVOCs in Soil						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<0.5	<0.5	<5	<5	<5
Bis-(2-chloroethyl) ether	mg/kg	<1	<1	[NA]	[NA]	[NA]
2-Chlorophenol	mg/kg	<0.5	<0.5	<5	<5	<5
2-Methylphenol	mg/kg	<0.5	<0.5	<5	<5	<5
3/4-Methylphenol	mg/kg	<1	<1	<10	<10	<10
Nitrobenzene	mg/kg	<1	<1	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<5	<5	<5
2-Nitrophenol	mg/kg	<0.5	<0.5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<5	<5	<5
1,2,4-Trichlorobenzene	mg/kg	<0.5	<0.5	[NA]	[NA]	[NA]
4-Chloro-3-methylphenol	mg/kg	<5	<5	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<5	<5	<5
Dimethylphthalate	mg/kg	<1	<1	<10	<10	<10
2,6-Dinitrotoluene	mg/kg	<1	<1	[NA]	[NA]	[NA]
2,4-dinitrophenol	mg/kg	<10	<10	<100	<100	<100
4-nitrophenol	mg/kg	<10	<10	<100	<100	<100
diethylphthalate	mg/kg	<1	<1	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<100	<100	<100
pentachlorophenol	mg/kg	<5	<5	<50	<50	<50
di-n-butylphthalate	mg/kg	<1	<1	<10	<10	<10
butylbenzylphthalate	mg/kg	2	<1	<10	<10	<10
bis(2-ethylhexyl)phthalate	mg/kg	<1	<1	[NA]	[NA]	[NA]
di-n-octylphthalate	mg/kg	<1	<1	<10	<10	<10
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<5	<5	<5
Surrogate Phenol-d_6	%	44	90	#	#	#
Surrogate Nitrobenzene-d_5	%	72	28	60	80	50
Surrogate 2-fluorobiphenyl	%	79	96	90	90	80
Surrogate 2,4,6-Tribromophenol	%	54	92	#	#	#
Surrogate p-Terphenyl-d_{14}	%	95	91	126	114	113

SVOCs in Soil						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<0.5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<0.5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<0.5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<1	<10
Nitrobenzene	mg/kg	<10	<10	<10	<1	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<0.5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<0.5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<0.5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<5	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<0.5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<0.5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<1	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<10	<100
4-nitrophenol	mg/kg	<100	<100	<100	<10	<100
diethylphthalate	mg/kg	<10	<10	<10	<1	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<10	<100
pentachlorophenol	mg/kg	<50	<50	<50	<5	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<1	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<1	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<1	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<0.5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<0.5	<5
Surrogate Phenol-d_6	%	#	#	#	88	#
Surrogate Nitrobenzene-d_5	%	70	70	70	94	80
Surrogate 2-fluorobiphenyl	%	70	80	80	85	80
Surrogate 2,4,6-Tribromophenol	%	#	#	#	93	#
Surrogate p-Terphenyl-d_{14}	%	101	106	105	118	101

SVOCs in Soil						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<0.5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<0.5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<0.5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<1
Nitrobenzene	mg/kg	<10	<10	<10	<10	<1
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<0.5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<0.5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<0.5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<5
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<0.5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<0.5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<1
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<10
4-nitrophenol	mg/kg	<100	<100	<100	<100	<10
diethylphthalate	mg/kg	<10	<10	<10	<10	<1
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<10
pentachlorophenol	mg/kg	<50	<50	<50	<50	<5
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<1
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<1
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<1
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<0.5
Surrogate Phenol-d_6	%	#	#	#	#	29
Surrogate Nitrobenzene-d_5	%	50	70	60	70	84
Surrogate 2-fluorobiphenyl	%	70	70	80	70	75
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	94	102	113	102	#

SVOCs in Soil						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
2-Chlorophenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
2-Methylphenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
3/4-Methylphenol	mg/kg	<1	<1	<1	<10	<1
Nitrobenzene	mg/kg	<1	<1	<1	<10	<1
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
2-Nitrophenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<50	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
Dimethylphthalate	mg/kg	<1	<1	<1	<10	<1
2,4-dinitrophenol	mg/kg	<10	<10	<10	<100	<10
4-nitrophenol	mg/kg	<10	<10	<10	<100	<10
diethylphthalate	mg/kg	<1	<1	<1	<10	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<100	<10
pentachlorophenol	mg/kg	<5	<5	<5	<50	<5
di-n-butylphthalate	mg/kg	<1	<1	<1	<10	<1
butylbenzylphthalate	mg/kg	<1	<1	<1	<10	<1
di-n-octylphthalate	mg/kg	<1	<1	<1	<10	<1
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<0.5	<5	<0.5
Surrogate Phenol-d_6	%	54	58	95	#	89
Surrogate Nitrobenzene-d_5	%	76	105	104	50	74
Surrogate 2-fluorobiphenyl	%	91	89	83	70	76
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	101	71	37	102	#

SVOCs in Soil						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<10
Nitrobenzene	mg/kg	<10	<10	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
4-nitrophenol	mg/kg	<100	<100	<100	<100	<100
diethylphthalate	mg/kg	<10	<10	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
pentachlorophenol	mg/kg	<50	<50	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	50	80	#	#	#
Surrogate Nitrobenzene-d_5	%	50	50	50	50	60
Surrogate 2-fluorobiphenyl	%	60	80	80	80	80
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	90	120	112	112	118

SVOCs in Soil						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<10
Nitrobenzene	mg/kg	<10	<10	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
4-nitrophenol	mg/kg	<100	<100	<100	<100	<100
diethylphthalate	mg/kg	<10	<10	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
pentachlorophenol	mg/kg	<50	<50	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	100	#	#	#	70
Surrogate Nitrobenzene-d_5	%	70	70	90	60	60
Surrogate 2-fluorobiphenyl	%	80	70	80	70	70
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	118	106	106	98	106

SVOCs in Soil						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<10
Nitrobenzene	mg/kg	<10	<10	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
4-nitrophenol	mg/kg	<100	<100	<100	<100	<100
diethylphthalate	mg/kg	<10	<10	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
pentachlorophenol	mg/kg	<50	<50	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	80	90	70	80	60
Surrogate Nitrobenzene-d_5	%	60	70	60	70	50
Surrogate 2-fluorobiphenyl	%	70	80	70	80	70
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	106	105	112	112	106

SVOCs in Soil						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<10
Nitrobenzene	mg/kg	<10	<10	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
4-nitrophenol	mg/kg	<100	<100	<100	<100	<100
diethylphthalate	mg/kg	<10	<10	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
pentachlorophenol	mg/kg	<50	<50	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	#	#	70	90	70
Surrogate Nitrobenzene-d_5	%	60	60	60	50	60
Surrogate 2-fluorobiphenyl	%	70	70	80	70	80
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	106	106	112	112	112

SVOCs in Soil						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<10
Nitrobenzene	mg/kg	<10	<10	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
4-nitrophenol	mg/kg	<100	<100	<100	<100	<100
diethylphthalate	mg/kg	<10	<10	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
pentachlorophenol	mg/kg	<50	<50	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	80	100	#	#	80
Surrogate Nitrobenzene-d_5	%	40	70	40	70	50
Surrogate 2-fluorobiphenyl	%	70	70	70	70	70
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	100	105	104	105	106

SVOCs in Soil						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<10
Nitrobenzene	mg/kg	<10	<10	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
4-nitrophenol	mg/kg	<100	<100	<100	<100	<100
diethylphthalate	mg/kg	<10	<10	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
pentachlorophenol	mg/kg	<50	<50	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	#	50	#	#	#
Surrogate Nitrobenzene-d_5	%	40	40	60	50	50
Surrogate 2-fluorobiphenyl	%	80	70	80	80	70
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	104	94	106	112	106

SVOCs in Soil						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<10
Nitrobenzene	mg/kg	<10	<10	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
4-nitrophenol	mg/kg	<100	<100	<100	<100	<100
diethylphthalate	mg/kg	<10	<10	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
pentachlorophenol	mg/kg	<50	<50	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	30	30	#	#	#
Surrogate Nitrobenzene-d_5	%	#	80	70	80	70
Surrogate 2-fluorobiphenyl	%	130	100	90	90	90
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	97	135	129	135	135

SVOCs in Soil						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<10
Nitrobenzene	mg/kg	<10	<10	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
4-nitrophenol	mg/kg	<100	<100	<100	<100	<100
diethylphthalate	mg/kg	<10	<10	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
pentachlorophenol	mg/kg	<50	<50	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	#	110	90	80	130
Surrogate Nitrobenzene-d_5	%	80	#	40	40	40
Surrogate 2-fluorobiphenyl	%	100	120	110	110	130
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	135	140	#	#	#

SVOCs in Soil						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<10	<10
Nitrobenzene	mg/kg	<10	<10	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
4-nitrophenol	mg/kg	<100	<100	<100	<100	<100
diethylphthalate	mg/kg	<10	<10	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<100	<100
pentachlorophenol	mg/kg	<50	<50	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	90	120	100	90	70
Surrogate Nitrobenzene-d_5	%	50	50	40	50	50
Surrogate 2-fluorobiphenyl	%	100	130	100	90	110
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	140	#	#	129	140

SVOCs in Soil						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<5	<5	<0.5	<5
2-Chlorophenol	mg/kg	<5	<5	<5	<0.5	<5
2-Methylphenol	mg/kg	<5	<5	<5	<0.5	<5
3/4-Methylphenol	mg/kg	<10	<10	<10	<1	<10
Nitrobenzene	mg/kg	<10	<10	<10	<1	<10
2,4-Dimethylphenol	mg/kg	<5	<5	<5	<0.5	<5
2-Nitrophenol	mg/kg	<5	<5	<5	<0.5	<5
2,4-Dichlorophenol	mg/kg	<5	<5	<5	<0.5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<50	<50	<5	<50
2,4,6-trichlorophenol	mg/kg	<5	<5	<5	<0.5	<5
2,4,5-trichlorophenol	mg/kg	<5	<5	<5	<0.5	<5
Dimethylphthalate	mg/kg	<10	<10	<10	<1	<10
2,4-dinitrophenol	mg/kg	<100	<100	<100	<10	<100
4-nitrophenol	mg/kg	<100	<100	<100	<10	<100
diethylphthalate	mg/kg	<10	<10	<10	<1	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<100	<100	<10	<100
pentachlorophenol	mg/kg	<50	<50	<50	<5	<50
di-n-butylphthalate	mg/kg	<10	<10	<10	<1	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<1	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<1	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<0.5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<5	<5	<0.5	<5
Surrogate Phenol-d_6	%	80	100	90	#	#
Surrogate Nitrobenzene-d_5	%	50	50	#	#	110
Surrogate 2-fluorobiphenyl	%	100	110	110	#	100
Surrogate 2,4,6-Tribromophenol	%	#	#	#	46	#
Surrogate p-Terphenyl-d_{14}	%	#	#	#	129	135

SVOCs in Soil						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<0.5	<5	<5	<5	<0.5
2-Chlorophenol	mg/kg	<0.5	<5	<5	<5	<0.5
2-Methylphenol	mg/kg	<0.5	<5	<5	<5	<0.5
3/4-Methylphenol	mg/kg	<1	<10	<10	<10	<1
Nitrobenzene	mg/kg	<1	<10	<10	<10	<1
2,4-Dimethylphenol	mg/kg	<0.5	<5	<5	<5	<0.5
2-Nitrophenol	mg/kg	<0.5	<5	<5	<5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<5	<5	<5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<50	<50	<50	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<5	<5	<5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<5	<5	<5	<0.5
Dimethylphthalate	mg/kg	<1	<10	<10	<10	<1
2,4-dinitrophenol	mg/kg	<10	<100	<100	<100	<10
4-nitrophenol	mg/kg	<10	<100	<100	<100	<10
diethylphthalate	mg/kg	<1	<10	<10	<10	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<100	<100	<100	<10
pentachlorophenol	mg/kg	<5	<50	<50	<50	<5
di-n-butylphthalate	mg/kg	<1	<10	<10	<10	<1
butylbenzylphthalate	mg/kg	<1	<10	<10	<10	<1
di-n-octylphthalate	mg/kg	<1	<10	<10	<10	<1
2,6-dichlorophenol	mg/kg	<0.5	<5	<5	<5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<5	<5	<5	<0.5
Surrogate Phenol-d_6	%	#	#	#	#	94
Surrogate Nitrobenzene-d_5	%	35	60	70	60	65
Surrogate 2-fluorobiphenyl	%	#	90	90	100	105
Surrogate 2,4,6-Tribromophenol	%	47	#	#	#	140
Surrogate p-Terphenyl-d_{14}	%	120	129	129	129	135

SVOCs in Soil						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<5	<0.5	<5	<5	<5
2-Chlorophenol	mg/kg	<5	<0.5	<5	<5	<5
2-Methylphenol	mg/kg	<5	<0.5	<5	<5	<5
3/4-Methylphenol	mg/kg	<10	<1	<10	<10	<10
Nitrobenzene	mg/kg	<10	<1	<10	<10	<10
2,4-Dimethylphenol	mg/kg	<5	<0.5	<5	<5	<5
2-Nitrophenol	mg/kg	<5	<0.5	<5	<5	<5
2,4-Dichlorophenol	mg/kg	<5	<0.5	<5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<50	<5	<50	<50	<50
2,4,6-trichlorophenol	mg/kg	<5	<0.5	<5	<5	<5
2,4,5-trichlorophenol	mg/kg	<5	<0.5	<5	<5	<5
Dimethylphthalate	mg/kg	<10	<1	<10	<10	<10
2,4-dinitrophenol	mg/kg	<100	<10	<100	<100	<100
4-nitrophenol	mg/kg	<100	<10	<100	<100	<100
diethylphthalate	mg/kg	<10	<1	<10	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100	<10	<100	<100	<100
pentachlorophenol	mg/kg	<50	<5	<50	<50	<50
di-n-butylphthalate	mg/kg	<10	<1	<10	<10	<10
butylbenzylphthalate	mg/kg	<10	<10	<10	<10	<10
di-n-octylphthalate	mg/kg	<10	<10	<10	<10	<10
2,6-dichlorophenol	mg/kg	<5	<5	<5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5	<0.5	<5	<5	<5
Surrogate Phenol-d_6	%	100	76	70	90	100
Surrogate Nitrobenzene-d_5	%	40	58	30	#	40
Surrogate 2-fluorobiphenyl	%	100	100	90	110	120
Surrogate 2,4,6-Tribromophenol	%	#	106	#	#	#
Surrogate p-Terphenyl-d_{14}	%	#	129	135	140	#

SVOCs in Soil						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Phenol	mg/kg	<0.5	<5	<0.5	<5	<5
2-Chlorophenol	mg/kg	<0.5	<5	<0.5	<5	<5
2-Methylphenol	mg/kg	<0.5	<5	<0.5	<5	<5
3/4-Methylphenol	mg/kg	<1	<10	<1	<10	<10
Nitrobenzene	mg/kg	<1	<10	<1	<10	<10
2,4-Dimethylphenol	mg/kg	<0.5	<5	<0.5	<5	<5
2-Nitrophenol	mg/kg	<0.5	<5	<0.5	<5	<5
2,4-Dichlorophenol	mg/kg	<0.5	<5	<0.5	<5	<5
4-Chloro-3-methylphenol	mg/kg	<5	<50	<5	<50	<50
2,4,6-trichlorophenol	mg/kg	<0.5	<5	<0.5	<5	<5
2,4,5-trichlorophenol	mg/kg	<0.5	<5	<0.5	<5	<5
Dimethylphthalate	mg/kg	<1	<10	<1	<10	<10
2,4-dinitrophenol	mg/kg	<10	<100	<10	<100	<100
4-nitrophenol	mg/kg	<10	<100	<10	<100	<100
diethylphthalate	mg/kg	<1	<10	<1	<10	<10
2-methyl-4,6-dinitrophenol	mg/kg	<10	<100	<10	<100	<100
pentachlorophenol	mg/kg	<5	<50	<5	<50	<50
di-n-butylphthalate	mg/kg	<1	<10	<1	<10	<10
butylbenzylphthalate	mg/kg	<1	<10	<1	<10	<10
di-n-octylphthalate	mg/kg	<1	<10	<1	<10	<10
2,6-dichlorophenol	mg/kg	<0.5	<5	<0.5	<5	<5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<5	<0.5	<5	<5
Surrogate Phenol-d_6	%	#	50	45	30	50
Surrogate Nitrobenzene-d_5	%	55	50	64	50	30
Surrogate 2-fluorobiphenyl	%	84	100	88	90	100
Surrogate 2,4,6-Tribromophenol	%	64	#	60	#	#
Surrogate p-Terphenyl-d_{14}	%	118	135	118	135	140

SVOCs in Soil		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date extracted	-	08/03/2017
Date analysed	-	09/03/2017
Phenol	mg/kg	<5
2-Chlorophenol	mg/kg	<5
2-Methylphenol	mg/kg	<5
3/4-Methylphenol	mg/kg	<10
Nitrobenzene	mg/kg	<10
2,4-Dimethylphenol	mg/kg	<5
2-Nitrophenol	mg/kg	<5
2,4-Dichlorophenol	mg/kg	<5
4-Chloro-3-methylphenol	mg/kg	<50
2,4,6-trichlorophenol	mg/kg	<5
2,4,5-trichlorophenol	mg/kg	<5
Dimethylphthalate	mg/kg	<10
2,4-dinitrophenol	mg/kg	<100
4-nitrophenol	mg/kg	<100
diethylphthalate	mg/kg	<10
2-methyl-4,6-dinitrophenol	mg/kg	<100
pentachlorophenol	mg/kg	<50
di-n-butylphthalate	mg/kg	<10
butylbenzylphthalate	mg/kg	<10
di-n-octylphthalate	mg/kg	<10
2,6-dichlorophenol	mg/kg	<5
2,3,4,6-tetrachlorophenol	mg/kg	<5
Surrogate Phenol-d_6	%	40
Surrogate Nitrobenzene-d_5	%	50
Surrogate 2-fluorobiphenyl	%	90
Surrogate 2,4,6-Tribromophenol	%	#
Surrogate p-Terphenyl-d_{14}	%	140

VOCs in soil						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	102	104	103	102	103
Surrogate aaa-Trifluorotoluene	%	88	87	91	92	94
Surrogate Toluene-d_8	%	100	100	100	100	99
Surrogate 4-Bromofluorobenzene	%	99	97	98	99	98

VOCs in soil						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	103	102	102	104	104
Surrogate aaa-Trifluorotoluene	%	87	93	90	89	79
Surrogate Toluene-d_8	%	98	97	98	100	100
Surrogate 4-Bromofluorobenzene	%	99	97	99	99	97

VOCs in soil						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	2	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	105	102	105	103	105
Surrogate aaa-Trifluorotoluene	%	69	97	102	103	103
Surrogate Toluene-d_8	%	98	97	99	100	99
Surrogate 4-Bromofluorobenzene	%	97	98	98	98	99

VOCs in soil						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	105	104	104	102	103
Surrogate aaa-Trifluorotoluene	%	94	100	98	95	94
Surrogate Toluene-d_8	%	98	98	99	97	99
Surrogate 4-Bromofluorobenzene	%	96	99	96	96	96

VOCs in soil						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	102	105	107	109	107
Surrogate aaa-Trifluorotoluene	%	76	68	91	95	91
Surrogate Toluene-d_8	%	98	99	98	97	97
Surrogate 4-Bromofluorobenzene	%	98	98	96	97	96

VOCs in soil						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	103	108	108	106	109
Surrogate aaa-Trifluorotoluene	%	91	98	90	89	93
Surrogate Toluene-d_8	%	98	97	97	98	97
Surrogate 4-Bromofluorobenzene	%	93	95	93	94	96

VOCs in soil						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	110	102	109	108	109
Surrogate aaa-Trifluorotoluene	%	94	92	98	95	95
Surrogate Toluene-d_8	%	96	96	96	98	97
Surrogate 4-Bromofluorobenzene	%	93	94	93	95	93

VOCs in soil						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	109	108	109	107	109
Surrogate aaa-Trifluorotoluene	%	96	91	94	90	90
Surrogate Toluene-d_8	%	98	96	97	95	97
Surrogate 4-Bromofluorobenzene	%	93	95	94	95	93

VOCs in soil						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	109	108	108	109	106
Surrogate aaa-Trifluorotoluene	%	93	90	94	94	88
Surrogate Toluene-d_8	%	98	95	97	98	96
Surrogate 4-Bromofluorobenzene	%	96	94	95	94	96

VOCs in soil						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	108	108	109	108	108
Surrogate aaa-Trifluorotoluene	%	89	91	93	91	91
Surrogate Toluene-d_8	%	97	97	98	98	97
Surrogate 4-Bromofluorobenzene	%	95	93	94	95	94

VOCs in soil						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	108	109	109	110	109
Surrogate aaa-Trifluorotoluene	%	90	92	91	91	93
Surrogate Toluene-d_8	%	98	96	97	97	97
Surrogate 4-Bromofluorobenzene	%	93	94	93	92	94

VOCs in soil						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	110	106	110	109	107
Surrogate aaa-Trifluorotoluene	%	93	92	89	93	90
Surrogate Toluene-d_8	%	96	99	97	97	98
Surrogate 4-Bromofluorobenzene	%	94	92	96	95	94

VOCs in soil						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	101	100	100	100	100
Surrogate aaa-Trifluorotoluene	%	97	93	88	91	87
Surrogate Toluene-d_8	%	101	100	101	100	98
Surrogate 4-Bromofluorobenzene	%	99	99	99	99	97

VOCs in soil						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	103	102	101	99	102
Surrogate aaa-Trifluorotoluene	%	83	91	89	89	90
Surrogate Toluene-d_8	%	100	102	98	99	98
Surrogate 4-Bromofluorobenzene	%	96	97	99	98	98

VOCs in soil						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	101	103	102	101	102
Surrogate aaa-Trifluorotoluene	%	83	83	88	85	90
Surrogate Toluene-d_8	%	99	99	99	98	99
Surrogate 4-Bromofluorobenzene	%	96	97	97	96	98

VOCs in soil						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	101	103	101	101	98
Surrogate aaa-Trifluorotoluene	%	88	90	90	70	77
Surrogate Toluene-d_8	%	97	98	98	98	99
Surrogate 4-Bromofluorobenzene	%	97	96	97	96	98

VOCs in soil						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	100	97	98	99	103
Surrogate aaa-Trifluorotoluene	%	79	78	76	76	79
Surrogate Toluene-d_8	%	99	100	99	97	99
Surrogate 4-Bromofluorobenzene	%	97	95	96	98	96

VOCs in soil						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	103	104	104	102	102
Surrogate aaa-Trifluorotoluene	%	82	82	83	83	82
Surrogate Toluene-d_8	%	99	100	98	99	98
Surrogate 4-Bromofluorobenzene	%	96	95	97	95	97

VOCs in soil						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1

VOCs in soil						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	102	102	104	105	103
Surrogate aaa-Trifluorotoluene	%	83	83	84	70	66
Surrogate Toluene-d_8	%	98	98	97	97	99
Surrogate 4-Bromofluorobenzene	%	96	98	95	96	95

VOCs in soil		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date extracted	-	15/03/2017
Date analysed	-	17/03/2017
Dichlorodifluoromethane	mg/kg	<1
Chloromethane	mg/kg	<1
Vinyl Chloride	mg/kg	<1
Bromomethane	mg/kg	<1
Chloroethane	mg/kg	<1
Trichlorofluoromethane	mg/kg	<1
1,1-Dichloroethene	mg/kg	<1
trans-1,2-dichloroethene	mg/kg	<1
1,1-dichloroethane	mg/kg	<1
cis-1,2-dichloroethene	mg/kg	<1
bromochloromethane	mg/kg	<1
chloroform	mg/kg	<1
2,2-dichloropropane	mg/kg	<1
1,2-dichloroethane	mg/kg	<1
1,1,1-trichloroethane	mg/kg	<1
1,1-dichloropropene	mg/kg	<1
Cyclohexane	mg/kg	<1
carbon tetrachloride	mg/kg	<1
Benzene	mg/kg	<0.2
dibromomethane	mg/kg	<1
1,2-dichloropropane	mg/kg	<1
trichloroethene	mg/kg	<1
bromodichloromethane	mg/kg	<1
trans-1,3-dichloropropene	mg/kg	<1
cis-1,3-dichloropropene	mg/kg	<1
1,1,2-trichloroethane	mg/kg	<1
Toluene	mg/kg	<0.5
1,3-dichloropropane	mg/kg	<1
dibromochloromethane	mg/kg	<1
1,2-dibromoethane	mg/kg	<1
tetrachloroethene	mg/kg	<1
1,1,1,2-tetrachloroethane	mg/kg	<1
chlorobenzene	mg/kg	<1
Ethylbenzene	mg/kg	<1
bromoform	mg/kg	<1

VOCs in soil		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
m+p-xylene	mg/kg	<2
styrene	mg/kg	<1
1,1,2,2-tetrachloroethane	mg/kg	<1
o-Xylene	mg/kg	<1
1,2,3-trichloropropane	mg/kg	<1
isopropylbenzene	mg/kg	<1
bromobenzene	mg/kg	<1
n-propyl benzene	mg/kg	<1
2-chlorotoluene	mg/kg	<1
4-chlorotoluene	mg/kg	<1
1,3,5-trimethyl benzene	mg/kg	<1
tert-butyl benzene	mg/kg	<1
1,2,4-trimethyl benzene	mg/kg	<1
1,3-dichlorobenzene	mg/kg	<1
sec-butyl benzene	mg/kg	<1
1,4-dichlorobenzene	mg/kg	<1
4-isopropyl toluene	mg/kg	<1
1,2-dichlorobenzene	mg/kg	<1
n-butyl benzene	mg/kg	<1
1,2-dibromo-3-chloropropane	mg/kg	<1
1,2,4-trichlorobenzene	mg/kg	<1
hexachlorobutadiene	mg/kg	<1
1,2,3-trichlorobenzene	mg/kg	<1
Surrogate Dibromofluorometha	%	104
Surrogate aaa-Trifluorotoluene	%	81
Surrogate Toluene-d_8	%	96
Surrogate 4-Bromofluorobenzene	%	94

Acid Extractable metals in soil						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	6	120	92	8	39
Cadmium	mg/kg	0.5	0.6	0.5	0.7	1
Copper	mg/kg	24	260	400	41	230
Lead	mg/kg	25	490	330	20	210
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Molybdenum	mg/kg	2	9	9	6	10
Nickel	mg/kg	43	83	49	80	170
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	1	<1	<1	<1
Tin	mg/kg	2	10	16	3	14
Zinc	mg/kg	170	2,500	3,700	98	4,600

Acid Extractable metals in soil						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	13	<4	<4	4	<4
Cadmium	mg/kg	0.7	<0.4	<0.4	<0.4	<0.4
Copper	mg/kg	54	9	5	6	9
Lead	mg/kg	42	3	5	6	3
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	6	1	1	1	<1
Nickel	mg/kg	85	17	15	12	12
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	4	<1	<1	<1	<1
Zinc	mg/kg	360	6	23	23	14

Acid Extractable metals in soil						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	5	<4	7	44	330
Cadmium	mg/kg	<0.4	<0.4	<0.4	0.6	0.5
Copper	mg/kg	21	9	17	310	420
Lead	mg/kg	9	8	21	820	220
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	1	2	8	7
Nickel	mg/kg	40	27	36	66	44
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	2	<1
Tin	mg/kg	1	<1	2	14	18
Zinc	mg/kg	43	70	110	4,000	2,300

Acid Extractable metals in soil						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	9	22	14	6	100
Cadmium	mg/kg	0.7	0.9	0.7	0.5	0.5
Copper	mg/kg	34	150	37	31	250
Lead	mg/kg	27	130	19	27	500
Mercury	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Molybdenum	mg/kg	3	8	7	3	6
Nickel	mg/kg	64	79	110	42	81
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	3	11	3	4	11
Zinc	mg/kg	110	2,100	100	180	2,600

Acid Extractable metals in soil						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	180	8	67	13	<4
Cadmium	mg/kg	0.5	0.6	1	0.7	<0.4
Copper	mg/kg	390	28	250	69	7
Lead	mg/kg	330	18	310	37	1
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	7	3	8	7	<1
Nickel	mg/kg	44	64	71	96	12
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	2	<1	<1
Tin	mg/kg	16	2	13	6	<1
Zinc	mg/kg	3,800	89	4,100	320	1

Acid Extractable metals in soil						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	<4	4	<4	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Copper	mg/kg	3	6	11	24	3
Lead	mg/kg	4	5	3	10	2
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	1	<1	<1	2	<1
Nickel	mg/kg	14	11	14	47	13
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	<1	<1	<1	1	<1
Zinc	mg/kg	10	22	12	57	4

Acid Extractable metals in soil						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	6	410	92	8	23
Cadmium	mg/kg	<0.4	0.5	0.5	0.7	0.9
Copper	mg/kg	20	450	350	52	130
Lead	mg/kg	22	800	270	24	100
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Molybdenum	mg/kg	2	9	9	5	10
Nickel	mg/kg	35	84	44	81	85
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	2	<1	<1	<1
Tin	mg/kg	3	20	15	3	9
Zinc	mg/kg	160	3,200	3,300	98	1,200

Acid Extractable metals in soil						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	13	6	43	190	7
Cadmium	mg/kg	0.7	0.4	0.6	0.6	0.7
Copper	mg/kg	43	24	210	430	39
Lead	mg/kg	22	24	540	330	23
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	6	2	5	8	3
Nickel	mg/kg	110	46	84	38	61
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	1	<1	<1
Tin	mg/kg	4	2	10	17	3
Zinc	mg/kg	120	170	2,400	3,700	150

Acid Extractable metals in soil						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	40	14	6	180	98
Cadmium	mg/kg	1	0.8	0.4	0.5	0.5
Copper	mg/kg	200	67	22	340	370
Lead	mg/kg	200	46	23	630	320
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	8	7	3	8	9
Nickel	mg/kg	61	85	43	87	34
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	2	<1
Tin	mg/kg	13	6	2	14	15
Zinc	mg/kg	4,100	400	160	3,100	3,500

Acid Extractable metals in soil						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	7	39	12	7	280
Cadmium	mg/kg	0.6	1	0.7	0.5	0.6
Copper	mg/kg	31	210	57	28	410
Lead	mg/kg	20	190	34	27	640
Mercury	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	3	9	6	3	8
Nickel	mg/kg	57	63	76	44	66
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	2
Tin	mg/kg	2	12	4	3	17
Zinc	mg/kg	100	3,900	310	210	3,500

Acid Extractable metals in soil						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	850	8	38	22	7
Cadmium	mg/kg	0.4	0.6	1	0.7	0.5
Copper	mg/kg	720	35	220	58	25
Lead	mg/kg	370	20	190	39	27
Mercury	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Molybdenum	mg/kg	12	4	10	5	3
Nickel	mg/kg	65	61	69	77	42
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	1	<1	<1	<1	<1
Tin	mg/kg	28	2	13	4	2
Zinc	mg/kg	3,900	99	4,300	350	190

Acid Extractable metals in soil						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
Arsenic	mg/kg	55	240	8	62	14
Cadmium	mg/kg	0.5	0.5	0.7	1	0.8
Copper	mg/kg	270	450	27	220	64
Lead	mg/kg	610	350	18	210	35
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	6	8	3	9	7
Nickel	mg/kg	69	37	62	63	95
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	1	<1	<1	<1	<1
Tin	mg/kg	13	17	2	14	5
Zinc	mg/kg	3,600	3,700	86	4,400	330

Acid Extractable metals in soil						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Arsenic	mg/kg	<4	35	35	<4	11
Cadmium	mg/kg	<0.4	0.4	<0.4	<0.4	0.5
Copper	mg/kg	15	79	120	10	59
Lead	mg/kg	10	190	77	6	45
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	<1	2	3	<1	2
Nickel	mg/kg	28	34	19	17	30
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	<1	3	4	<1	3
Zinc	mg/kg	62	500	610	22	560

Acid Extractable metals in soil						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Arsenic	mg/kg	6	4	120	17	5
Cadmium	mg/kg	0.4	<0.4	<0.4	<0.4	<0.4
Copper	mg/kg	25	19	100	120	22
Lead	mg/kg	10	13	180	91	10
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	3	3	2	3	2
Nickel	mg/kg	46	34	34	21	35
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	2	1	4	5	2
Zinc	mg/kg	61	73	490	750	38

Acid Extractable metals in soil						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Arsenic	mg/kg	26	6	5	39	22
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Copper	mg/kg	66	18	18	81	110
Lead	mg/kg	54	11	14	170	84
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	3	2	1	2	2
Nickel	mg/kg	34	44	34	38	21
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	6	2	1	4	4
Zinc	mg/kg	680	93	76	650	660

Acid Extractable metals in soil						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Arsenic	mg/kg	5	61	7	<4	19
Cadmium	mg/kg	<0.4	0.5	<0.4	<0.4	<0.4
Copper	mg/kg	20	88	21	17	63
Lead	mg/kg	13	58	13	11	150
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	3	2	1	3
Nickel	mg/kg	38	38	45	39	44
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	1	5	1	1	3
Zinc	mg/kg	53	700	83	66	410

Acid Extractable metals in soil						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Arsenic	mg/kg	34	5	14	6	<4
Cadmium	mg/kg	0.4	0.4	0.6	<0.4	<0.4
Copper	mg/kg	140	20	78	27	12
Lead	mg/kg	98	16	55	12	10
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	4	2	4	2	1
Nickel	mg/kg	25	41	42	53	34
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	6	2	4	2	1
Zinc	mg/kg	770	38	710	72	60

Acid Extractable metals in soil						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Arsenic	mg/kg	11	22	5	12	10
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Copper	mg/kg	57	130	16	50	17
Lead	mg/kg	140	120	10	45	9
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4	2	3	2
Nickel	mg/kg	32	21	39	38	42
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	3	6	2	3	2
Zinc	mg/kg	580	990	41	570	54

Acid Extractable metals in soil						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Arsenic	mg/kg	11	15	210	7	14
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	0.4
Copper	mg/kg	23	71	250	28	58
Lead	mg/kg	18	210	140	12	45
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	1	2	5	3	4
Nickel	mg/kg	41	38	28	44	48
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	2	4	11	2	5
Zinc	mg/kg	120	690	1,100	42	490

Acid Extractable metals in soil			
Our Reference		162119-108	162119-109
Your Reference	UNITS	MW206 + 30% Cement WET	MW202 - 2nd sub-sample<125mm - [TRIPLICATE]
Date Sampled		10/02/2017	10/02/2017
Type of sample		Soil	Soil
Date prepared	-	08/03/2017	08/03/2017
Date analysed	-	16/03/2017	10/03/2017
Arsenic	mg/kg	8	350
Cadmium	mg/kg	<0.4	0.5
Copper	mg/kg	21	440
Lead	mg/kg	13	770
Mercury	mg/kg	<0.1	<0.1
Molybdenum	mg/kg	2	6
Nickel	mg/kg	51	74
Selenium	mg/kg	<2	<2
Silver	mg/kg	<1	2
Tin	mg/kg	2	21
Zinc	mg/kg	72	3,700

Misc Soil - Inorg						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	0.9	1	5	3	4
Total Cyanide	mg/kg	110	120	220	110	200

Misc Soil - Inorg						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	8.4	6.3	3	1	0.8
Total Cyanide	mg/kg	140	47	57	68	50

Misc Soil - Inorg						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	4	0.6	3	4	4
Total Cyanide	mg/kg	190	38	78	79	160

Misc Soil - Inorg						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	1	3	2	0.5	0.8
Total Cyanide	mg/kg	75	140	120	110	61

Misc Soil - Inorg						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	0.7	5	3	3	4
Total Cyanide	mg/kg	190	130	190	120	42

Misc Soil - Inorg						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	2	4	5.7	6.8	1
Total Cyanide	mg/kg	58	68	38	140	32

Misc Soil - Inorg						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	<0.5	0.9	3	4	0.8
Total Cyanide	mg/kg	93	87	160	100	180

Misc Soil - Inorg						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	5.5	0.8	2	6.9	3
Total Cyanide	mg/kg	140	110	82	210	110

Misc Soil - Inorg						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	4	8.5	3	0.8	3
Total Cyanide	mg/kg	250	160	110	95	210

Misc Soil - Inorg						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	2	2	5	1	0.8
Total Cyanide	mg/kg	120	210	150	110	76

Misc Soil - Inorg						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	3	2	2	6.0	2
Total Cyanide	mg/kg	270	110	220	150	120

Misc Soil - Inorg						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	3	6.9	4	7.4	8.8
Total Cyanide	mg/kg	130	200	120	220	150

Misc Soil - Inorg						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	0.7	<0.5	1	0.5	<0.5
Total Cyanide	mg/kg	3.1	1.7	2.5	1.4	0.9

Misc Soil - Inorg						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	<0.5	<0.5	<0.5	0.6	<0.5
Total Cyanide	mg/kg	0.9	2.2	0.8	3.4	1.2

Misc Soil - Inorg						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	<0.5	<0.5	<0.5	<0.5	1
Total Cyanide	mg/kg	1.7	6.2	65	15	75

Misc Soil - Inorg						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	<0.5	0.8	<0.5	1	3
Total Cyanide	mg/kg	47	87	60	2.8	5.5

Misc Soil - Inorg						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	5.5	4	1	5.2	<0.5
Total Cyanide	mg/kg	9.3	5.4	9.4	7.5	0.6

Misc Soil - Inorg						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	<0.5	0.7	0.5	<0.5	<0.5
Total Cyanide	mg/kg	0.5	1.1	0.8	0.6	0.6

Misc Soil - Inorg						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	1	1	2	1	1
Total Cyanide	mg/kg	60	40	100	57	100

Misc Soil - Inorg		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date prepared	-	08/03/2017
Date analysed	-	13/03/2017
Free Cyanide in soil	mg/kg	2
Total Cyanide	mg/kg	110

Miscellaneous Inorg - soil						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	35,000	26,000	37,000	35,000	33,000

Miscellaneous Inorg - soil						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	25,000	24,000	22,000	29,000	29,000

Miscellaneous Inorg - soil						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	23,000	18,000	25,000	22,000	30,000

Miscellaneous Inorg - soil						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	13,000	20,000	15,000	25,000	19,000

Miscellaneous Inorg - soil						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	24,000	15,000	24,000	17,000	25,000

Miscellaneous Inorg - soil						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	22,000	8,700	410,000	22,000	41,000

Miscellaneous Inorg - soil						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	34,000	11,000	29,000	16,000	21,000

Miscellaneous Inorg - soil						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	42,000	46,000	39,000	32,000	35,000

Miscellaneous Inorg - soil						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	14,000	37,000	34,000	41,000	19,000

Miscellaneous Inorg - soil						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	50,000	52,000	37,000	39,000	22,000

Miscellaneous Inorg - soil						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	29,000	38,000	24,000	37,000	17,000

Miscellaneous Inorg - soil						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	210	24,000	40,000	31,000	20,000

Miscellaneous Inorg - soil						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	18,000	18,000	23,000	16,000	14,000

Miscellaneous Inorg - soil						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	17,000	25,000	4,400	43,000	29,000

Miscellaneous Inorg - soil						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	25,000	24,000	28,000	26,000	30,000

Miscellaneous Inorg - soil						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	28,000	31,000	12,000	19,000	25,000

Miscellaneous Inorg - soil						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	25,000	28,000	27,000	17,000	20,000

Miscellaneous Inorg - soil						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	39,000	27,000	38,000	17,000	32,000

Miscellaneous Inorg - soil						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	09/03/2017	09/03/2017	09/03/2017	09/03/2017	09/03/2017
Date analysed	-	23/03/2017	23/03/2017	23/03/2017	23/03/2017	23/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	1
Total Fluoride	mg/kg	25,000	35,000	34,000	41,000	49,000

Miscellaneous Inorg - soil			
Our Reference		162119-108	162119-110
Your Reference	UNITS	MW206 + 30% Cement WET	MW204 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017
Type of sample		Soil	Soil
Date prepared	-	09/03/2017	21/06/2017
Date analysed	-	23/03/2017	21/06/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	1	[NT]
Total Fluoride	mg/kg	25,000	83,000

Miscellaneous Inorganics						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	5.7	5.7	7.8	6.3	6.0
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	1.7	1.7	3.1	2.2	1.9
pH of soil for fluid# determ.	pH units	8.5	8.5	10.3	9.6	9.4
Fluoride in TCLPs	mg/L	13	16	160	33	19

Miscellaneous Inorganics						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	5.7	5.7	5.3	6.8	8.8
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	1.7	1.8	1.7	2.1	4.2
pH of soil for fluid# determ.	pH units	8.7	8.7	7.7	9.9	10.7
Fluoride in TCLPs	mg/L	15	14	14	61	2,400

Miscellaneous Inorganics						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	6.1	5.6	5.7	5.7	6.9
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	2.1	2.4	1.8	1.8	2.6
pH of soil for fluid# determ.	pH units	9.5	9.7	9.2	9.0	9.9
Fluoride in TCLPs	mg/L	22	170	15	14	48

Miscellaneous Inorganics						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	6.5	5.8	5.8	5.6	6.8
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	2.1	1.8	1.8	1.7	1.7
pH of soil for fluid# determ.	pH units	9.5	9.0	9.0	8.7	8.7
Fluoride in TCLPs	mg/L	38	16	17	13	16

Miscellaneous Inorganics						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	7.8	6.3	6.0	5.8	5.3
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	3.3	2.1	1.9	1.8	1.7
pH of soil for fluid# determ.	pH units	10.0	9.8	9.5	8.9	8.7
Fluoride in TCLPs	mg/L	140	32	20	16	14

Miscellaneous Inorganics						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	5.1	6.2	8.4	5.6	5.1
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	1.8	2.0	4.4	2.3	2.9
pH of soil for fluid# determ.	pH units	7.8	9.9	10.8	9.7	9.9
Fluoride in TCLPs	mg/L	13	28	2,100	12	350

Miscellaneous Inorganics						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	5.4	5.5	6.3	5.9	5.5
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	2.0	2.0	3.5	2.1	1.9
pH of soil for fluid# determ.	pH units	9.3	9.3	10.1	9.8	9.1
Fluoride in TCLPs	mg/L	12	11	32	20	12

Miscellaneous Inorganics						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	5.6	5.4	5.5	7.0	5.9
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	1.9	1.9	1.9	3.4	2.2
pH of soil for fluid# determ.	pH units	9.2	8.9	9.1	10.3	9.6
Fluoride in TCLPs	mg/L	12	11	12	45	19

Miscellaneous Inorganics						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	5.7	5.5	5.4	5.5	6.7
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	2.1	1.9	1.9	1.9	3.7
pH of soil for fluid# determ.	pH units	9.6	9.0	8.9	8.9	10.2
Fluoride in TCLPs	mg/L	14	12	11	12	34

Miscellaneous Inorganics						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	5.9	5.8	5.6	5.4	5.6
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	2.2	2.1	1.9	1.9	1.9
pH of soil for fluid# determ.	pH units	9.5	9.4	9.0	8.8	8.8
Fluoride in TCLPs	mg/L	20	15	12	11	13

Miscellaneous Inorganics						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	7.0	6.0	5.9	5.6	5.4
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	4.2	2.2	2.0	2.0	1.8
pH of soil for fluid# determ.	pH units	10.1	9.6	9.3	9.0	8.9
Fluoride in TCLPs	mg/L	46	22	17	13	11

Miscellaneous Inorganics						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	5.6	7.0	6.0	5.8	5.6
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	2.0	4.4	2.8	2.0	2.0
pH of soil for fluid# determ.	pH units	9.0	10.1	9.6	9.4	9.0
Fluoride in TCLPs	mg/L	13	45	22	16	13

Miscellaneous Inorganics						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	12.3	12.5	12.4	12.4	12.5
Extraction fluid used	-	2	2	2	2	2
pH of soil TCLP (after HCl)	pH units	12.3	12.4	12.4	12.4	12.4
pH of soil for fluid# determ.	pH units	12.5	12.5	12.5	12.5	12.5
Fluoride in TCLPs	mg/L	8.5	4.2	10	8.5	11

Miscellaneous Inorganics						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	12.4	4.1	4.9	5.3	5.2
Extraction fluid used	-	2	1	1	1	1
pH of soil TCLP (after HCl)	pH units	12.4	1.8	1.8	2.1	1.9
pH of soil for fluid# determ.	pH units	12.5	7.5	7.3	7.7	7.6
Fluoride in TCLPs	mg/L	10	11	13	11	10

Miscellaneous Inorganics						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	5.0	5.1	10.5	9.4	10.4
Extraction fluid used	-	1	1	2	2	2
pH of soil TCLP (after HCl)	pH units	1.7	1.9	7.8	6.6	7.0
pH of soil for fluid# determ.	pH units	7.3	7.7	11.8	11.6	11.8
Fluoride in TCLPs	mg/L	13	9.7	24	0.4	13

Miscellaneous Inorganics						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	9.6	9.3	10.6	12.3	12.2
Extraction fluid used	-	2	2	2	2	2
pH of soil TCLP (after HCl)	pH units	6.4	6.5	7.4	12.2	12.2
pH of soil for fluid# determ.	pH units	11.6	11.8	11.9	12.4	12.6
Fluoride in TCLPs	mg/L	0.4	0.6	35	11	11

Miscellaneous Inorganics						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	12.2	12.2	11.9	12.3	4.9
Extraction fluid used	-	2	2	2	2	1
pH of soil TCLP (after HCl)	pH units	12.2	12.2	12.3	12.3	1.8
pH of soil for fluid# determ.	pH units	12.6	12.6	12.6	12.6	6.6
Fluoride in TCLPs	mg/L	12	11	0.8	12	11

Miscellaneous Inorganics						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	4.9	5.3	5.3	5.1	5.1
Extraction fluid used	-	1	1	1	1	1
pH of soil TCLP (after HCl)	pH units	1.8	2.2	2.1	1.7	1.9
pH of soil for fluid# determ.	pH units	6.4	6.6	6.4	6.4	6.4
Fluoride in TCLPs	mg/L	14	11	10	14	8.4

Miscellaneous Inorganics						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
Date prepared	-	08/03/2017	08/03/2017	08/03/2017	08/03/2017	08/03/2017
pH of final Leachate	pH units	7.6	7.7	7.7	7.5	7.5
Extraction fluid used	-	2	2	2	2	2
pH of soil TCLP (after HCl)	pH units	5.9	6.0	6.5	6.8	5.9
pH of soil for fluid# determ.	pH units	12.0	11.4	11.6	11.5	11.2
Fluoride in TCLPs	mg/L	5.8	9.1	10	8.9	8.6

Miscellaneous Inorganics		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date analysed	-	08/03/2017
Date prepared	-	08/03/2017
pH of final Leachate	pH units	7.3
Extraction fluid used	-	2
pH of soil TCLP (after HCl)	pH units	5.8
pH of soil for fluid# determ.	pH units	11.7
Fluoride in TCLPs	mg/L	25

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Date analysed	-	13/03/2017	13/03/2017	13/03/2017	13/03/2017	13/03/2017
Naphthalene in TCLP	mg/L	<0.001	0.021	<0.001	0.002	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	0.006	<0.001	0.002	<0.001
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	<0.001	0.006	<0.001	0.006	0.002
Anthracene in TCLP	mg/L	<0.001	0.001	<0.001	0.001	<0.001
Fluoranthene in TCLP	mg/L	0.001	0.001	<0.001	0.003	0.002
Pyrene in TCLP	mg/L	0.001	0.001	<0.001	0.002	0.001
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.0020	0.037	NIL (+)VE	0.018	0.0050
Surrogate p-Terphenyl-d14	%	79	80	97	69	67

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/03/2017	28/03/2017	28/03/2017	28/03/2017	28/03/2017
Date analysed	-	16/03/2017	28/03/2017	28/03/2017	28/03/2017	28/03/2017
Naphthalene in TCLP	mg/L	0.001	0.19	<0.001	0.19	0.20
Acenaphthylene in TCLP	mg/L	<0.001	0.26	0.030	0.020	0.19
Acenaphthene in TCLP	mg/L	0.002	0.91	<0.001	0.10	0.61
Fluorene in TCLP	mg/L	0.001	0.29	<0.001	<0.001	0.070
Phenanthrene in TCLP	mg/L	0.008	7.8	0.28	0.20	3.1
Anthracene in TCLP	mg/L	0.003	1.4	0.25	0.18	0.33
Fluoranthene in TCLP	mg/L	0.005	21	0.72	0.49	2.9
Pyrene in TCLP	mg/L	0.004	21	0.70	0.47	2.6
Benzo(a)anthracene in TCLP	mg/L	0.001	10	0.18	0.57	1.4
Chrysene in TCLP	mg/L	0.001	21	0.22	0.56	2.4
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	16	0.09	0.83	2.8
Benzo(a)pyrene in TCLP	mg/L	<0.001	6.9	<0.001	0.34	1.3
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	1.1	<0.001	0.20	1.0
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	0.44	<0.001	<0.001	0.19
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	1.3	0.020	0.27	1.3
Total +ve PAH's	mg/L	0.026	110	2.5	4.4	20
Surrogate p-Terphenyl-d14	%	66	96	116	126	133

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/03/2017	24/03/2017	14/03/2017	14/03/2017	14/03/2017
Date analysed	-	28/03/2017	24/03/2017	16/03/2017	16/03/2017	16/03/2017
Naphthalene in TCLP	mg/L	0.15	0.020	0.001	0.031	0.003
Acenaphthylene in TCLP	mg/L	0.020	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	1.1	<0.001	0.002	0.013	0.001
Fluorene in TCLP	mg/L	0.45	0.040	<0.001	0.001	<0.001
Phenanthrene in TCLP	mg/L	10	<0.001	0.004	0.026	0.003
Anthracene in TCLP	mg/L	2.8	0.030	<0.001	0.002	<0.001
Fluoranthene in TCLP	mg/L	41	0.070	0.004	0.010	0.001
Pyrene in TCLP	mg/L	39	0.070	0.003	0.008	0.001
Benzo(a)anthracene in TCLP	mg/L	44	0.010	0.001	0.001	<0.001
Chrysene in TCLP	mg/L	38	<0.001	0.002	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	82	<0.002	0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	47	0.020	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	33	<0.001	0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	10	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	37	<0.001	0.001	<0.001	<0.001
Total +ve PAH's	mg/L	390	0.26	0.022	0.092	0.0090
Surrogate p-Terphenyl-d14	%	116	68	62	60	74

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/03/2017	14/03/2017	14/03/2017	14/03/2017	14/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Naphthalene in TCLP	mg/L	0.003	0.002	0.002	<0.001	0.031
Acenaphthylene in TCLP	mg/L	0.004	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.010	0.005	0.007	0.001	0.011
Fluorene in TCLP	mg/L	0.002	0.002	0.004	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.038	0.025	0.043	0.002	0.007
Anthracene in TCLP	mg/L	0.003	0.003	0.008	<0.001	0.001
Fluoranthene in TCLP	mg/L	0.016	0.013	0.021	0.003	0.002
Pyrene in TCLP	mg/L	0.011	0.009	0.015	0.002	0.002
Benzo(a)anthracene in TCLP	mg/L	0.001	0.001	0.002	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	0.001	0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.089	0.062	0.10	0.0090	0.054
Surrogate p-Terphenyl-d14	%	60	62	60	65	60

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	14/03/2017	14/03/2017	14/03/2017	14/03/2017	28/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	28/03/2017
Naphthalene in TCLP	mg/L	<0.001	0.002	<0.001	0.001	0.20
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	0.002	0.001	0.002	0.050
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	<0.001	0.007	0.004	0.008	0.10
Anthracene in TCLP	mg/L	0.001	<0.001	<0.001	0.002	0.090
Fluoranthene in TCLP	mg/L	<0.001	0.004	0.004	0.005	0.11
Pyrene in TCLP	mg/L	<0.001	0.003	0.003	0.004	0.11
Benzo(a)anthracene in TCLP	mg/L	<0.001	0.001	0.001	0.001	0.010
Chrysene in TCLP	mg/L	<0.001	0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.001	0.021	0.013	0.024	0.67
Surrogate p-Terphenyl-d14	%	75	60	80	73	112

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/03/2017	28/03/2017	28/03/2017	28/03/2017	28/03/2017
Date analysed	-	28/03/2017	28/03/2017	28/03/2017	28/03/2017	28/03/2017
Naphthalene in TCLP	mg/L	<0.001	<0.001	0.090	0.11	0.060
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	0.030	0.080	0.040
Acenaphthene in TCLP	mg/L	<0.001	0.020	0.11	0.27	0.15
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.080
Phenanthrene in TCLP	mg/L	0.39	1.2	0.21	0.48	0.84
Anthracene in TCLP	mg/L	0.35	0.17	0.19	0.43	0.90
Fluoranthene in TCLP	mg/L	0.99	1.6	0.16	0.48	2.4
Pyrene in TCLP	mg/L	0.87	1.2	0.12	0.44	2.2
Benzo(a)anthracene in TCLP	mg/L	0.27	0.21	0.10	0.50	1.7
Chrysene in TCLP	mg/L	0.26	0.67	0.15	0.58	2.2
Benzo(bjk)fluoranthene in TCLP	mg/L	0.28	0.51	0.24	1.1	4.8
Benzo(a)pyrene in TCLP	mg/L	0.14	0.23	0.090	0.56	2.3
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.080	0.080	0.10	0.38	1.7
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.49
Benzo(g,h,i)perylene in TCLP	mg/L	0.12	0.10	0.090	0.47	2.0
Total +ve PAH's	mg/L	3.7	6.0	1.7	5.8	22
Surrogate p-Terphenyl-d14	%	115	110	140	97	132

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Naphthalene in TCLP	mg/L	0.001	0.043	0.003	0.002	0.002
Acenaphthylene in TCLP	mg/L	<0.001	0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.001	0.016	0.002	0.010	0.006
Fluorene in TCLP	mg/L	<0.001	0.001	<0.001	0.002	0.002
Phenanthrene in TCLP	mg/L	0.003	0.027	0.002	0.032	0.027
Anthracene in TCLP	mg/L	<0.001	0.002	<0.001	0.004	0.004
Fluoranthene in TCLP	mg/L	0.004	0.011	0.002	0.013	0.013
Pyrene in TCLP	mg/L	0.003	0.009	0.001	0.01	0.009
Benzo(a)anthracene in TCLP	mg/L	0.001	0.002	<0.001	0.001	0.001
Chrysene in TCLP	mg/L	0.002	0.002	<0.001	<0.001	0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	0.003	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	0.002	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	0.002	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.018	0.12	0.010	0.074	0.065
Surrogate p-Terphenyl-d14	%	60	60	79	60	61

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Naphthalene in TCLP	mg/L	0.002	<0.001	0.039	<0.001	0.002
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.008	0.001	0.015	<0.001	0.003
Fluorene in TCLP	mg/L	0.004	<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.044	0.002	0.007	<0.001	0.008
Anthracene in TCLP	mg/L	0.009	<0.001	<0.001	0.001	<0.001
Fluoranthene in TCLP	mg/L	0.023	0.005	0.002	<0.001	0.005
Pyrene in TCLP	mg/L	0.017	0.005	0.001	<0.001	0.004
Benzo(a)anthracene in TCLP	mg/L	0.001	0.001	<0.001	<0.001	0.001
Chrysene in TCLP	mg/L	0.001	0.002	<0.001	<0.001	0.002
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	0.002	<0.002	<0.002	0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.001
Total +ve PAH's	mg/L	0.11	0.018	0.064	0.001	0.030
Surrogate p-Terphenyl-d14	%	60	78	60	87	60

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Naphthalene in TCLP	mg/L	<0.001	0.001	<0.001	0.039	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.001	0.002	<0.001	0.016	<0.001
Fluorene in TCLP	mg/L	<0.001	0.001	<0.001	0.001	<0.001
Phenanthrene in TCLP	mg/L	0.004	0.008	0.002	0.009	<0.001
Anthracene in TCLP	mg/L	<0.001	0.002	<0.001	0.001	0.001
Fluoranthene in TCLP	mg/L	0.004	0.006	0.004	0.004	<0.001
Pyrene in TCLP	mg/L	0.003	0.005	0.004	0.004	<0.001
Benzo(a)anthracene in TCLP	mg/L	0.001	0.001	0.001	0.002	<0.001
Chrysene in TCLP	mg/L	<0.001	0.001	0.003	0.002	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	0.002	0.004	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	0.002	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	0.002	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	0.002	<0.001
Total +ve PAH's	mg/L	0.013	0.028	0.016	0.090	0.001
Surrogate p-Terphenyl-d14	%	74	71	60	63	84

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Naphthalene in TCLP	mg/L	0.002	<0.001	0.001	<0.001	0.029
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.003	<0.001	0.001	0.001	0.010
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.009	0.003	0.007	0.002	0.007
Anthracene in TCLP	mg/L	0.001	<0.001	0.001	<0.001	0.001
Fluoranthene in TCLP	mg/L	0.005	0.003	0.005	0.003	0.002
Pyrene in TCLP	mg/L	0.004	0.003	0.004	0.003	0.001
Benzo(a)anthracene in TCLP	mg/L	0.001	<0.001	0.001	0.001	<0.001
Chrysene in TCLP	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.031	0.0090	0.020	0.010	0.050
Surrogate p-Terphenyl-d14	%	75	78	72	84	60

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Naphthalene in TCLP	mg/L	<0.001	0.002	<0.001	0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	0.002	0.001	0.002	<0.001
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	<0.001	0.006	0.003	0.007	0.001
Anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	0.002	<0.001
Fluoranthene in TCLP	mg/L	<0.001	0.003	0.003	0.005	0.002
Pyrene in TCLP	mg/L	<0.001	0.002	0.002	0.004	0.002
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	NIL (+)VE	0.014	0.0090	0.023	0.0060
Surrogate p-Terphenyl-d14	%	72	60	67	76	66

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/03/2017	15/03/2017	15/03/2017	15/03/2017	15/03/2017
Date analysed	-	16/03/2017	16/03/2017	16/03/2017	16/03/2017	16/03/2017
Naphthalene in TCLP	mg/L	0.027	<0.001	0.002	<0.001	0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.009	<0.001	0.002	0.001	0.001
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.007	<0.001	0.008	0.003	0.007
Anthracene in TCLP	mg/L	<0.001	<0.001	0.001	<0.001	0.002
Fluoranthene in TCLP	mg/L	0.003	<0.001	0.006	0.003	0.005
Pyrene in TCLP	mg/L	0.003	<0.001	0.005	0.002	0.004
Benzo(a)anthracene in TCLP	mg/L	0.001	<0.001	0.002	<0.001	0.001
Chrysene in TCLP	mg/L	0.001	<0.001	0.002	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	<0.002	0.003	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	0.001	<0.001	0.002	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	<0.001	0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	<0.001	0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.057	NIL (+)VE	0.035	0.0090	0.020
Surrogate p-Terphenyl-d14	%	60	88	65	68	67

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Naphthalene in TCLP	mg/L	<0.001	0.018	<0.001	0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	0.004	<0.001	0.003	0.001
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	<0.001	0.004	<0.001	0.012	0.009
Anthracene in TCLP	mg/L	<0.001	<0.001	0.001	0.001	0.001
Fluoranthene in TCLP	mg/L	<0.001	0.003	<0.001	0.007	0.007
Pyrene in TCLP	mg/L	<0.001	0.002	<0.001	0.005	0.005
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	NIL (+)VE	0.031	0.001	0.030	0.024
Surrogate p-Terphenyl-d14	%	76	64	85	67	63

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/03/2017	17/03/2017	17/03/2017	11/06/1900	17/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Naphthalene in TCLP	mg/L	<0.001	<0.001	0.039	0.001	0.002
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.004	0.001	0.015	0.001	0.004
Fluorene in TCLP	mg/L	<0.001	<0.001	0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.024	0.002	0.014	0.001	0.014
Anthracene in TCLP	mg/L	0.005	<0.001	0.001	<0.001	0.001
Fluoranthene in TCLP	mg/L	0.015	0.001	0.005	<0.001	0.006
Pyrene in TCLP	mg/L	0.011	0.001	0.004	<0.001	0.005
Benzo(a)anthracene in TCLP	mg/L	0.003	<0.001	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	0.002	<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.067	0.0050	0.079	0.0040	0.032
Surrogate p-Terphenyl-d14	%	80	62	70	77	62

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Naphthalene in TCLP	mg/L	<0.001	0.001	<0.001	0.029	0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.002	0.004	<0.001	0.009	<0.001
Fluorene in TCLP	mg/L	0.001	0.002	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.014	0.023	<0.001	0.009	<0.001
Anthracene in TCLP	mg/L	0.002	0.006	<0.001	0.001	0.001
Fluoranthene in TCLP	mg/L	0.009	0.011	<0.001	0.004	<0.001
Pyrene in TCLP	mg/L	0.007	0.008	<0.001	0.003	<0.001
Benzo(a)anthracene in TCLP	mg/L	0.001	0.001	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	0.001	0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.037	0.058	NIL (+)VE	0.055	0.0020
Surrogate p-Terphenyl-d14	%	69	68	77	69	81

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/03/2017	17/03/2017	17/03/2017	28/03/2017	28/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	28/03/2017	28/03/2017
Naphthalene in TCLP	mg/L	0.003	<0.001	0.001	0.090	1.6
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.020
Acenaphthene in TCLP	mg/L	0.006	0.001	0.006	0.040	1.4
Fluorene in TCLP	mg/L	<0.001	<0.001	0.002	<0.001	0.15
Phenanthrene in TCLP	mg/L	0.014	0.013	0.022	0.17	1.6
Anthracene in TCLP	mg/L	0.001	0.001	0.004	0.15	0.20
Fluoranthene in TCLP	mg/L	0.007	0.008	0.011	0.12	1.0
Pyrene in TCLP	mg/L	0.005	0.006	0.008	0.12	0.91
Benzo(a)anthracene in TCLP	mg/L	<0.001	0.001	0.001	<0.001	0.15
Chrysene in TCLP	mg/L	<0.001	<0.001	0.001	0.060	0.16
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	0.11
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.010
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.020
Total +ve PAH's	mg/L	0.036	0.031	0.058	0.75	7.4
Surrogate p-Terphenyl-d14	%	65	74	66	120	127

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/03/2017	28/03/2017	28/03/2017	28/03/2017	17/03/2017
Date analysed	-	28/03/2017	28/03/2017	28/03/2017	28/03/2017	17/03/2017
Naphthalene in TCLP	mg/L	0.20	0.26	0.080	0.12	<0.001
Acenaphthylene in TCLP	mg/L	0.030	0.10	0.020	0.070	<0.001
Acenaphthene in TCLP	mg/L	0.12	0.33	0.080	0.26	0.001
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.29	0.78	0.50	1.0	0.002
Anthracene in TCLP	mg/L	0.26	0.20	0.080	0.28	<0.001
Fluoranthene in TCLP	mg/L	0.14	0.47	0.64	1.1	0.001
Pyrene in TCLP	mg/L	0.12	0.39	0.56	0.87	0.001
Benzo(a)anthracene in TCLP	mg/L	0.070	0.18	0.26	0.14	<0.001
Chrysene in TCLP	mg/L	0.070	0.020	0.59	0.18	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	0.08	0.39	0.08	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	0.17	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	0.020	0.11	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	0.020	0.14	<0.001	<0.001
Total +ve PAH's	mg/L	1.3	2.8	3.6	4.2	0.0050
Surrogate p-Terphenyl-d14	%	131	126	125	120	93

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Date analysed	-	17/03/2017	17/03/2017	17/03/2017	17/03/2017	17/03/2017
Naphthalene in TCLP	mg/L	0.025	0.001	0.002	0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.012	0.001	0.004	0.002	0.004
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	0.001	0.002
Phenanthrene in TCLP	mg/L	0.015	0.002	0.013	0.015	0.028
Anthracene in TCLP	mg/L	0.001	<0.001	0.001	0.002	0.005
Fluoranthene in TCLP	mg/L	0.006	<0.001	0.006	0.009	0.012
Pyrene in TCLP	mg/L	0.004	<0.001	0.005	0.006	0.009
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	0.001	0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.063	0.0040	0.031	0.038	0.061
Surrogate p-Terphenyl-d14	%	75	84	67	71	71

PAHs in TCLP (USEPA 1311)						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	28/03/2017	28/03/2017	28/03/2017	28/03/2017	17/03/2017
Date analysed	-	28/03/2017	28/03/2017	28/03/2017	28/03/2017	17/03/2017
Naphthalene in TCLP	mg/L	0.13	2.7	0.16	0.16	0.001
Acenaphthylene in TCLP	mg/L	<0.001	0.57	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.060	1.8	<0.001	0.050	0.002
Fluorene in TCLP	mg/L	<0.001	0.49	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.21	2.4	0.090	0.070	0.014
Anthracene in TCLP	mg/L	0.19	0.48	0.070	0.050	0.001
Fluoranthene in TCLP	mg/L	0.14	1.6	0.12	0.13	0.009
Pyrene in TCLP	mg/L	0.13	1.3	0.11	0.12	0.006
Benzo(a)anthracene in TCLP	mg/L	160	0.18	<0.001	<0.001	0.001
Chrysene in TCLP	mg/L	0.10	0.41	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	0.07	0.07	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.020	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	160	12	0.55	0.58	0.034
Surrogate p-Terphenyl-d14	%	134	113	121	126	72

PAHs in TCLP (USEPA 1311)		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date extracted	-	28/03/2017
Date analysed	-	28/03/2017
Naphthalene in TCLP	mg/L	0.070
Acenaphthylene in TCLP	mg/L	<0.001
Acenaphthene in TCLP	mg/L	<0.001
Fluorene in TCLP	mg/L	<0.001
Phenanthrene in TCLP	mg/L	0.12
Anthracene in TCLP	mg/L	0.10
Fluoranthene in TCLP	mg/L	0.13
Pyrene in TCLP	mg/L	0.12
Benzo(a)anthracene in TCLP	mg/L	<0.001
Chrysene in TCLP	mg/L	0.020
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001
Total +ve PAH's	mg/L	0.56
Surrogate p-Terphenyl-d14	%	124

TCLP - ASLP4439.3						
Our Reference		162119-1	162119-2	162119-3	162119-4	162119-5
Your Reference	UNITS	MW201 - BULK 1st sub-sample	MW202 - BULK 1st sub-sample	MW203 - BULK 1st sub-sample	MW204 - BULK 1st sub-sample	MW205 - BULK 1st sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	8.4	8.6	9.9	9.3	8.7
Total Cyanide in ASLPs	mg/L	4.6	2.5	9.6	5.9	7.9

TCLP - ASLP4439.3						
Our Reference		162119-6	162119-7	162119-8	162119-9	162119-10
Your Reference	UNITS	MW206 - BULK 1st sub-sample	MW201 - 1st sub-sample>125mm	MW202 - 1st sub-sample>125mm	MW203 - 1st sub-sample>125mm	MW204 - 1st sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	8.7	8.7	8.1	9.8	10.6
Total Cyanide in ASLPs	mg/L	6.8	2.8	3.1	3.1	2.4

TCLP - ASLP4439.3						
Our Reference		162119-11	162119-12	162119-25	162119-26	162119-27
Your Reference	UNITS	MW205 - 1st sub-sample>125mm	MW206 - 1st sub-sample>125mm	MW201 - 1st sub-sample<125mm	MW202 - 1st sub-sample<125mm	MW203 - 1st sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	9.3	9.7	8.7	9.0	9.6
Total Cyanide in ASLPs	mg/L	6.6	2.3	3.6	3.3	7.1

TCLP - ASLP4439.3						
Our Reference		162119-28	162119-29	162119-30	162119-31	162119-32
Your Reference	UNITS	MW204 - 1st sub-sample<125mm	MW205 - 1st sub-sample<125mm	MW206 - 1st sub-sample<125mm	MW201 - BULK 2nd sub-sample	MW202 - BULK 2nd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	9.2	8.9	9.1	8.5	8.7
Total Cyanide in ASLPs	mg/L	4.3	6.1	7.8	4.3	3.2

TCLP - ASLP4439.3						
Our Reference		162119-33	162119-34	162119-35	162119-36	162119-37
Your Reference	UNITS	MW203 - BULK 2nd sub-sample	MW204 - BULK 2nd sub-sample	MW205 - BULK 2nd sub-sample	MW206 - BULK 2nd sub-sample	MW201 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	9.9	9.1	9.0	8.7	8.6
Total Cyanide in ASLPs	mg/L	10	5.3	8.1	6.6	2.3

TCLP - ASLP4439.3						
Our Reference		162119-38	162119-39	162119-40	162119-41	162119-42
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm	MW203 - 2nd sub-sample>125mm	MW204 - 2nd sub-sample>125mm	MW205 - 2nd sub-sample>125mm	MW206 - 2nd sub-sample>125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	8.0	9.9	10.8	9.3	9.6
Total Cyanide in ASLPs	mg/L	2.8	3.1	2.5	7.5	1.8

TCLP - ASLP4439.3						
Our Reference		162119-43	162119-44	162119-45	162119-46	162119-47
Your Reference	UNITS	MW201 - 2nd sub-sample<125mm	MW202 - 2nd sub-sample<125mm	MW203 - 2nd sub-sample<125mm	MW204 - 2nd sub-sample<125mm	MW205 - 2nd sub-sample<125mm
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	8.6	8.9	9.7	9.5	8.8
Total Cyanide in ASLPs	mg/L	4.2	3.7	7.9	4.2	7.2

TCLP - ASLP4439.3						
Our Reference		162119-48	162119-49	162119-50	162119-51	162119-52
Your Reference	UNITS	MW206 - 2nd sub-sample<125mm	MW201 - BULK 3rd sub-sample	MW202 - BULK 3rd sub-sample	MW203 - BULK 3rd sub-sample	MW204 - BULK 3rd sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	8.9	8.5	8.7	9.8	9.2
Total Cyanide in ASLPs	mg/L	7.7	4.6	3.1	9.3	5.5

TCLP - ASLP4439.3						
Our Reference		162119-53	162119-54	162119-55	162119-56	162119-57
Your Reference	UNITS	MW205 - BULK 3rd sub-sample	MW206 - BULK 3rd sub-sample	MW201 - BULK 4TH sub-sample	MW202 - BULK 4TH sub-sample	MW203 - BULK 4TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	8.9	8.5	8.5	8.7	9.9
Total Cyanide in ASLPs	mg/L	8.2	6.6	5.0	3.1	10

TCLP - ASLP4439.3						
Our Reference		162119-58	162119-59	162119-60	162119-61	162119-62
Your Reference	UNITS	MW204 - BULK 4TH sub-sample	MW205 - BULK 4TH sub-sample	MW206 - BULK 4TH sub-sample	MW201 - BULK 5TH sub-sample	MW202 - BULK 5TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	9.3	9.1	8.7	8.6	8.7
Total Cyanide in ASLPs	mg/L	5.8	8.6	6.5	4.8	2.7

TCLP - ASLP4439.3						
Our Reference		162119-63	162119-64	162119-65	162119-66	162119-67
Your Reference	UNITS	MW203 - BULK 5TH sub-sample	MW204 - BULK 5TH sub-sample	MW205 - BULK 5TH sub-sample	MW206 - BULK 5TH sub-sample	MW201 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	9.9	9.4	8.9	8.8	8.6
Total Cyanide in ASLPs	mg/L	10	5.5	8.2	6.7	4.8

TCLP - ASLP4439.3						
Our Reference		162119-68	162119-69	162119-70	162119-71	162119-72
Your Reference	UNITS	MW202 - BULK 6TH sub-sample	MW203 - BULK 6TH sub-sample	MW204 - BULK 6TH sub-sample	MW205 - BULK 6TH sub-sample	MW206 - BULK 6TH sub-sample
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	8.7	9.9	9.6	9.0	8.6
Total Cyanide in ASLPs	mg/L	2.6	9.7	5.6	8.2	6.6

TCLP - ASLP4439.3						
Our Reference		162119-73	162119-74	162119-75	162119-76	162119-77
Your Reference	UNITS	MW201 + 50% Lime Dry	MW202 + 50% Lime Dry	MW203 + 50% Lime Dry	MW204 + 50% Lime Dry	MW205 + 50% Lime Dry
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	12.4	12.5	12.6	12.4	12.5
Total Cyanide in ASLPs	mg/L	0.022	0.040	0.014	0.030	0.026

TCLP - ASLP4439.3						
Our Reference		162119-78	162119-79	162119-80	162119-81	162119-82
Your Reference	UNITS	MW206 + 50% Lime Dry	MW201 + 50% CaCl2 DRY	MW202 + 50% CaCl2 DRY	MW203 + 50% CaCl2 DRY	MW204 + 50% CaCl2 DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	12.4	7.0	7.2	6.9	6.7
Total Cyanide in ASLPs	mg/L	0.051	1.3	0.65	1.5	1.1

TCLP - ASLP4439.3						
Our Reference		162119-83	162119-84	162119-85	162119-86	162119-87
Your Reference	UNITS	MW205 + 50% CaCl2 DRY	MW206 + 50% CaCl2 DRY	MW201 + 30 Cement DRY	MW202 + 30 Cement DRY	MW203 + 30 Cement DRY
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	6.7	6.7	11.8	11.6	11.8
Total Cyanide in ASLPs	mg/L	1.4	2.7	3.3	1.9	5.1

TCLP - ASLP4439.3						
Our Reference		162119-88	162119-89	162119-90	162119-91	162119-92
Your Reference	UNITS	MW204 + 30 Cement DRY	MW205 + 30 Cement DRY	MW206 + 30 Cement DRY	MW201 + 50% Lime WET	MW202 + 50% Lime WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	11.5	11.1	12.0	12.4	12.5
Total Cyanide in ASLPs	mg/L	3.2	5.1	5.0	0.065	0.075

TCLP - ASLP4439.3						
Our Reference		162119-93	162119-94	162119-95	162119-96	162119-97
Your Reference	UNITS	MW203 + 50% Lime WET	MW204 + 50% Lime WET	MW205 + 50% Lime WET	MW206 + 50% Lime WET	MW201 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	12.5	12.5	12.5	12.5	6.7
Total Cyanide in ASLPs	mg/L	0.15	0.11	0.042	0.10	0.13

TCLP - ASLP4439.3						
Our Reference		162119-98	162119-99	162119-100	162119-101	162119-102
Your Reference	UNITS	MW202 + 50% CaCl2 WET	MW203 + 50% CaCl2 WET	MW204 + 50% CaCl2 WET	MW205 + 50% CaCl2 WET	MW206 + 50% CaCl2 WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	6.3	6.6	6.5	6.3	6.3
Total Cyanide in ASLPs	mg/L	0.11	0.22	0.23	0.11	0.24

TCLP - ASLP4439.3						
Our Reference		162119-103	162119-104	162119-105	162119-106	162119-107
Your Reference	UNITS	MW201 + 30% Cement WET	MW202 + 30% Cement WET	MW203 + 30% Cement WET	MW204 + 30% Cement WET	MW205 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
Date analysed	-	10/04/2017	10/04/2017	10/04/2017	10/04/2017	10/04/2017
pH of final Leachate	pH units	11.9	11.4	11.9	11.6	10.8
Total Cyanide in ASLPs	mg/L	2.7	1.8	4.7	2.7	4.4

TCLP - ASLP4439.3		
Our Reference		162119-108
Your Reference	UNITS	MW206 + 30% Cement WET
Date Sampled		10/02/2017
Type of sample		Soil
Date prepared	-	10/04/2017
Date analysed	-	10/04/2017
pH of final Leachate	pH units	11.8
Total Cyanide in ASLPs	mg/L	4.4

Method ID	Methodology Summary
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction (zHE) using AS4439 and USEPA 1311.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using in house method INORG-004.
Inorg-014	Cyanide - free, total, weak acid dissociable by segmented flow analyser (in line dialysis with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically.
Inorg-026	Fluoride determined by ion selective electrode (ISE) in accordance with APHA latest edition, 4500-F-C.
Inorg-026/53	Fluoride by caustic fusion and determined by ion selective electrode (ISE) analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Org-012	Leachates are extracted with Dichloromethane and analysed by GC-MS.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-2
Date extracted	-			15/03/2017	1	10/03/2017	10/03/2017		10/03/2017	10/03/2017
Date analysed	-			16/03/2017	1	13/03/2017	13/03/2017		13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	25	Org-016	<25	1	<25	<25	0	100	96
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	1	<25	<25	0	100	96
Benzene	mg/kg	0.2	Org-016	<0.2	1	<0.2	<0.2	0	100	98
Toluene	mg/kg	0.5	Org-016	<0.5	1	<0.5	<0.5	0	100	94
Ethylbenzene	mg/kg	1	Org-016	<1	1	<1	<1	0	100	98
m+p-xylene	mg/kg	2	Org-016	<2	1	<2	<2	0	100	95
o-Xylene	mg/kg	1	Org-016	<1	1	<1	<1	0	99	93
naphthalene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	93	1	88	92	4	83	84

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	162119-34
Date extracted	-			[NT]	33	10/03/2017	10/03/2017		10/03/2017	10/03/2017
Date analysed	-			[NT]	33	13/03/2017	13/03/2017		13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	33	<25	<25	0	100	89
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	33	<25	<25	0	100	89
Benzene	mg/kg	0.2	Org-016	[NT]	33	<0.2	<0.2	0	100	92
Toluene	mg/kg	0.5	Org-016	[NT]	33	<0.5	<0.5	0	100	88
Ethylbenzene	mg/kg	1	Org-016	[NT]	33	<1	<1	0	100	90
m+p-xylene	mg/kg	2	Org-016	[NT]	33	<2	<2	0	100	88
o-Xylene	mg/kg	1	Org-016	[NT]	33	<1	<1	0	99	87
naphthalene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	33	76	87	13	83	79

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-12	162119-56
Date extracted	-			[NT]	44	10/03/2017	10/03/2017		10/03/2017	10/03/2017
Date analysed	-			[NT]	44	13/03/2017	13/03/2017		13/03/2017	13/03/2017
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	44	<25	<25	0	120	110
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	44	<25	<25	0	120	110
Benzene	mg/kg	0.2	Org-016	[NT]	44	<0.2	<0.2	0	120	120
Toluene	mg/kg	0.5	Org-016	[NT]	44	<0.5	<0.5	0	110	110
Ethylbenzene	mg/kg	1	Org-016	[NT]	44	<1	<1	0	120	110
m+p-xylene	mg/kg	2	Org-016	[NT]	44	<2	<2	0	120	110
o-Xylene	mg/kg	1	Org-016	[NT]	44	<1	<1	0	110	110
naphthalene	mg/kg	1	Org-014	[NT]	44	2	4	67	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	44	92	99	7	95	89

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	55	10/03/2017	10/03/2017		15/03/2017	[NT]
Date analysed	-			[NT]	55	13/03/2017	13/03/2017		16/03/2017	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	55	<25	<25	0	95	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	55	<25	<25	0	95	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	55	<0.2	<0.2	0	93	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	55	<0.5	<0.5	0	94	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	55	<1	<1	0	98	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	55	<2	<2	0	94	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	55	<1	<1	0	90	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	55	94	94	0	80	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			[NT]	67	10/03/2017	10/03/2017		15/03/2017	[NT]
Date analysed	-			[NT]	67	13/03/2017	13/03/2017		16/03/2017	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	[NT]	67	<25	<25	0	120	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	[NT]	67	<25	<25	0	120	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	67	<0.2	<0.2	0	120	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	67	<0.5	<0.5	0	120	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	67	<1	<1	0	120	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	67	<2	<2	0	120	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	67	<1	<1	0	110	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	67	93	95	2	96	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-2
Date extracted	-			15/03/2017	1	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			15/03/2017	1	13/03/2017	13/03/2017		13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	1	<50	<50	0	110	130
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	1	700	790	12	110	#
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	1	690	760	10	110	#
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	1	<50	<50	0	110	130
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	1	1300	1400	7	110	#
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	1	350	380	8	110	#
Surrogate o-Terphenyl	%		Org-003	97	1	104	105	1	97	109

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	162119-34
Date extracted	-			[NT]	33	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	33	13/03/2017	13/03/2017		13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	33	<50	<50	0	100	120
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	33	680	720	6	100	#
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	33	1100	1100	0	120	#
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	33	<50	<50	0	100	120
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	33	1500	1500	0	100	#
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	33	720	810	12	120	#
Surrogate o-Terphenyl	%		Org-003	[NT]	33	100	100	0	96	106

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-12	162119-56
Date extracted	-			[NT]	44	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	44	13/03/2017	13/03/2017		13/03/2017	13/03/2017
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	44	51	52	2	110	120
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	44	5600	5600	0	110	100
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	44	4800	4900	2	91	#
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	44	160	150	6	110	120
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	44	9500	9600	1	110	100
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	44	2000	1900	5	91	#
Surrogate o-Terphenyl	%		Org-003	[NT]	44	#	#		93	125

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	55	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	55	13/03/2017	13/03/2017		13/03/2017	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	55	<50	<50	0	97	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	55	930	820	13	100	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	55	830	720	14	73	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	55	<50	<50	0	97	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	55	1600	1400	13	100	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	55	480	360	29	73	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	55	101	102	1	84	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			[NT]	67	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	67	13/03/2017	13/03/2017		13/03/2017	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	[NT]	67	<50	<50	0	100	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	[NT]	67	700	660	6	110	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	[NT]	67	750	680	10	70	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	[NT]	67	<50	<50	0	100	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	[NT]	67	1300	1200	8	110	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	[NT]	67	450	380	17	70	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	67	97	97	0	88	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-2
Date extracted	-			16/03/2017	1	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			15/03/2017	1	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	1	<1	<1	0	85	#
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	1	<1	<1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	1	2.7	3.0	11	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	1	1.3	1.7	27	92	79
Phenanthrene	mg/kg	0.1	Org-012	<0.1	1	17	18	6	100	#
Anthracene	mg/kg	0.1	Org-012	<0.1	1	5.9	4.8	21	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	1	52	36	36	97	#
Pyrene	mg/kg	0.1	Org-012	<0.1	1	52	33	45	98	#
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	1	46	45	2	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	1	51	51	0	87	80
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	1	100	100	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	1	41	40	2	83	#
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	1	22	20	10	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	1	6.0	7.6	24	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	1	26	23	12	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	102	1	101	93	8	114	60

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	162119-34
Date extracted	-			[NT]	33	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	33	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Naphthalene	mg/kg	0.1	Org-012	[NT]	33	1.2	1.7	34	83	86
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	33	0.2	0.2	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	33	3.7	4.0	8	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	33	1.3	1.5	14	96	100
Phenanthrene	mg/kg	0.1	Org-012	[NT]	33	17	19	11	100	#
Anthracene	mg/kg	0.1	Org-012	[NT]	33	4.3	4.7	9	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	33	40	40	0	99	#
Pyrene	mg/kg	0.1	Org-012	[NT]	33	37	37	0	100	#
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	33	23	23	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	33	20	21	5	87	#
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	33	41	42	2	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	33	24	24	0	94	#
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	33	11	12	9	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	33	2.9	3.4	16	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	33	13	13	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	33	93	93	0	100	101

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-12	162119-56
Date extracted	-			[NT]	44	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	44	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Naphthalene	mg/kg	0.1	Org-012	[NT]	44	3.7	3.9	5	88	110
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	44	1.3	1.7	27	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	44	32	31	3	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	44	16	14	13	98	140
Phenanthrene	mg/kg	0.1	Org-012	[NT]	44	170	170	0	100	#
Anthracene	mg/kg	0.1	Org-012	[NT]	44	37	37	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	44	340	380	11	110	#
Pyrene	mg/kg	0.1	Org-012	[NT]	44	330	370	11	110	#
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	44	280	310	10	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	44	230	230	0	88	#
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	44	480	510	6	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	44	310	340	9	100	#
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	44	150	170	12	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	44	43	45	5	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	44	170	180	6	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	44	102	104	2	63	64

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	55	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	55	08/03/2017	08/03/2017		08/03/2017	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	55	<1	<1	0	94	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	55	<1	<1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	55	2.3	2.0	14	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	55	1.4	<1	33	100	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	55	18	14	25	110	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	55	4.2	4.1	2	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	55	89	68	27	100	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	55	85	66	25	100	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	55	62	51	19	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	55	69	61	12	96	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	55	120	110	9	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	55	45	42	7	110	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	55	22	23	4	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	55	8.3	8.6	4	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	55	25	26	4	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	55	98	101	3	89	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			[NT]	67	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	67	08/03/2017	08/03/2017		08/03/2017	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	67	1.3	<1	26	92	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	67	<1	<1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	67	1.8	2.1	15	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	67	1.1	1.3	17	99	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	67	13	12	8	110	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	67	3.6	3.7	3	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	67	51	50	2	100	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	67	49	48	2	100	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	67	45	50	11	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	67	49	40	20	98	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	[NT]	67	100	93	7	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	67	35	40	13	110	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	67	19	19	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	67	7.3	6.3	15	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	67	21	23	9	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	67	93	106	13	90	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-2
Date extracted	-			08/03/2017	1	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			16/03/2017	1	08/03/2017	08/03/2017		08/03/2017	08/03/2017
HCB	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	100	75
gamma-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	87	74
Heptachlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	100	83
delta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	96	82
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	100	88
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	96	77
Dieldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	110	100
Endrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	110	93
pp-DDD	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	93	85
Endosulfan II	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	110	88
Methoxychlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	97	1	125	110	13	106	90

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	162119-34
Date extracted	-			[NT]	33	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	33	08/03/2017	08/03/2017		08/03/2017	08/03/2017
HCB	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	93	91
gamma-BHC	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	92	67
Heptachlor	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	100	120
delta-BHC	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	100	98
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	100	97
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	100	84
Dieldrin	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	120	100
Endrin	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	110	99
pp-DDD	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	96	86
Endosulfan II	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	110	87
Methoxychlor	mg/kg	0.1	Org-005	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	33	75	100	29	115	93

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-12	162119-56
Date extracted	-			[NT]	44	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	44	08/03/2017	08/03/2017		08/03/2017	08/03/2017
HCB	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	92	91
gamma-BHC	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	100	96
Heptachlor	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	110	100
delta-BHC	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	110	100
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	120	110
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	110	100
Dieldrin	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	130	120
Endrin	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	120	100
pp-DDD	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	100	92
Endosulfan II	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	76	91
Methoxychlor	mg/kg	0.1	Org-005	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	44	117	96	20	124	117

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	55	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	55	08/03/2017	08/03/2017		16/03/2017	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	96	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	95	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	95	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	95	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	93	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	93	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	110	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	96	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	94	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	55	<0.1	<0.1	0	79	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	55	<0.2	<0.2	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	55	90	100	11	97	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			[NT]	67	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	67	08/03/2017	08/03/2017		16/03/2017	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	98	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	100	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	110	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	100	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	100	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	100	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	120	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	100	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	94	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	100	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	67	99	105	6	99	[NT]

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-3
Date extracted	-			08/03/2017	1	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			16/03/2017	1	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	84	82
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	89	73
Dimethoate	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	100	100
Fenitrothion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	97	92
Malathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	96	80
Parathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	100	100
Ronnel	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	91	98
Surrogate TCMX	%		Org-008	97	1	125	110	13	101	90

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	162119-35
Date extracted	-			[NT]	33	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	33	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	94	90
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	87	100
Dimethoate	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	110	100
Fenitrothion	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	110	97
Malathion	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	81	83
Parathion	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	96	100
Ronnel	mg/kg	0.1	Org-008	[NT]	33	<0.1	<0.1	0	100	110
Surrogate TCMX	%		Org-008	[NT]	33	75	100	29	127	106

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-12	162119-57
Date extracted	-			[NT]	44	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	44	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	79	97
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	81	73
Dimethoate	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	100	110
Fenitrothion	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	82	100
Malathion	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	74	72
Parathion	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	100	100
Ronnel	mg/kg	0.1	Org-008	[NT]	44	<0.1	<0.1	0	78	110
Surrogate TCMX	%		Org-008	[NT]	44	117	96	20	119	103

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	55	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	55	08/03/2017	08/03/2017		16/03/2017	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	88	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	55	<2	<2	0	110	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	100	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	96	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	75	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	110	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	55	<0.1	<0.1	0	82	[NT]
Surrogate TCMX	%		Org-008	[NT]	55	90	100	11	92	[NT]

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			[NT]	67	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	67	08/03/2017	08/03/2017		16/03/2017	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	93	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	67	<0.2	<0.2	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	67	<1	<1	0	81	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	89	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	99	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	86	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	94	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	67	<0.1	<0.1	0	100	[NT]
Surrogate TCMX	%		Org-008	[NT]	67	99	105	6	99	[NT]

QUALITY CONTROL: SVOCs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-3
Date extracted	-			08/03/2017	1	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			09/03/2017	1	09/03/2017	09/03/2017		09/03/2017	09/03/2017
Phenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	62	65
Bis-(2-chloroethyl) ether	mg/kg	1	Org-012	<1	1	<1	<1	0	[NT]	[NT]
2-Chlorophenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	130	97
1,3-Dichlorobenzene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-Dichlorobenzene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	68	80
2-Methylphenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2-Dichlorobenzene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis (2-chloroisopropyl) ether	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3/4-Methylphenol	mg/kg	1	Org-012	<1	1	<1	<1	0	[NT]	[NT]
N-nitrosodi-n-propylamine	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachloroethane	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Nitrobenzene	mg/kg	1	Org-012	<1	1	<1	<1	0	[NT]	[NT]
Isophorone	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Bis(2-chloroethoxy)methane	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2,4-Trichlorobenzene	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Naphthalene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chloroaniline	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chloro-3-methylphenol	mg/kg	5	Org-012	<5	1	<5	<5	0	[NT]	[NT]
2-Methylnaphthalene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorocyclopentadiene	mg/kg	2	Org-012	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-trichlorophenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
2,4,5-trichlorophenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
2-Chloronaphthalene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-nitroaniline	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethylphthalate	mg/kg	1	Org-012	<1	1	<1	<1	0	78	78
2,6-Dinitrotoluene	mg/kg	1	Org-012	<1	1	<1	<1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Nitroaniline	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	83	140
2,4-dinitrophenol	mg/kg	10	Org-012	<10	1	<10	<10	0	[NT]	[NT]
4-nitrophenol	mg/kg	10	Org-012	<10	1	<10	<10	0	40	50
Dibenzofuran	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
diethylphthalate	mg/kg	1	Org-012	<1	1	<1	<1	0	84	87
4-chlorophenylphenylether	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-nitroaniline	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOCs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-3
Fluorene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-methyl-4,6-dinitrophenol	mg/kg	10	Org-012	<10	1	<10	<10	0	[NT]	[NT]
azobenzene	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-bromophenylphenylether	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
hexachlorobenzene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pentachlorophenol	mg/kg	5	Org-012	<5	1	<5	<5	0	[NT]	[NT]
Phenanthrene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Anthracene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
carbazole	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
di-n-butylphthalate	mg/kg	1	Org-012	<1	1	<1	<1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pyrene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	94	#
butylbenzylphthalate	mg/kg	1	Org-012	<1	1	<1	<1	0	[NT]	[NT]
bis(2-ethylhexyl)phthalate	mg/kg	1	Org-012	<1	1	3	3	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
di-n-octylphthalate	mg/kg	1	Org-012	<1	1	<1	<1	0	[NT]	[NT]
Benzo(b+j+k)fluoranthene	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
ethylmethanesulfonate	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
aniline	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pentachloroethane	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
benzyl alcohol	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
acetophenone	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosomorpholine	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitrosopiperidine	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-dichlorophenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
hexachloropropene-1	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-nitroso-n-butylamine	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
safrole	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4,5-tetrachlorobenzene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis and trans iso-safrole	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dinitrobenzene	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pentachlorobenzene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1-naphthylamine	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-tetrachlorophenol	mg/kg	0.5	Org-012	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
2-naphthylamine	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
5-nitro-o-toluidine	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOCs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-3
diphenylamine	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
phenacetin	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pentachloronitrobenzene	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
dinoseb	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
methapyrilene	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p-dimethylaminoazobenzene	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-acetylaminofluorene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
7,12-dimethylbenz(a)anthracene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-methylcholanthrene	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-BHC	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
b-BHC	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
g-BHC	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
d-BHC	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	78	83
Heptachlor Epoxide	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
g-Chlordane	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-Chlordane	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDE	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dieldrin	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	83	83
Endrin	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDD	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan II	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDT	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Ketone	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.5	Org-012	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	mg/kg	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-012	89	1	74	74	0	78	118
Surrogate Nitrobenzene-d_5	%		Org-012	84	1	56	80	35	91	98
Surrogate 2-fluorobiphenyl	%		Org-012	79	1	83	92	10	80	87
Surrogate 2,4,6-Tribromophenol	%		Org-012	70	1	94	107	13	85	#
Surrogate p-Terphenyl-d_{14}	%		Org-012	105	1	97	100	3	105	92

QUALITY CONTROL: SVOCs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	162119-35
Date extracted	-			[NT]	33	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	33	09/03/2017	09/03/2017		09/03/2017	09/03/2017
Phenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	81	93
2-Chlorophenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	110	140
1,4-Dichlorobenzene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	110	130
2-Methylphenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	mg/kg	1	Org-012	[NT]	33	<10	<10	0	[NT]	[NT]
Nitrobenzene	mg/kg	1	Org-012	[NT]	33	<10	<10	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	mg/kg	5	Org-012	[NT]	33	<50	<50	0	[NT]	[NT]
2,4,6-trichlorophenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	[NT]	[NT]
2,4,5-trichlorophenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	[NT]	[NT]
Dimethylphthalate	mg/kg	1	Org-012	[NT]	33	<10	<10	0	63	130
Acenaphthene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	87	#
2,4-dinitrophenol	mg/kg	10	Org-012	[NT]	33	<100	<100	0	[NT]	[NT]
4-nitrophenol	mg/kg	10	Org-012	[NT]	33	<100	<100	0	60	140
diethylphthalate	mg/kg	1	Org-012	[NT]	33	<10	<10	0	130	#
2-methyl-4,6-dinitrophenol	mg/kg	10	Org-012	[NT]	33	<100	<100	0	[NT]	[NT]
pentachlorophenol	mg/kg	5	Org-012	[NT]	33	<50	<50	0	[NT]	[NT]
di-n-butylphthalate	mg/kg	1	Org-012	[NT]	33	<10	<10	0	[NT]	[NT]
Pyrene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	120	#
butylbenzylphthalate	mg/kg	1	Org-012	[NT]	33	<10	<10	0	[NT]	[NT]
di-n-octylphthalate	mg/kg	1	Org-012	[NT]	33	<10	<10	0	[NT]	[NT]
2,6-dichlorophenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	[NT]	[NT]
2,3,4,6-tetrachlorophenol	mg/kg	0.5	Org-012	[NT]	33	<5	<5	0	[NT]	[NT]
Aldrin	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	57	#
Dieldrin	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	60	140
Surrogate Phenol-d_6	%		Org-012	[NT]	33	#	#		126	40
Surrogate Nitrobenzene-d_5	%		Org-012	[NT]	33	50	60	18	121	60
Surrogate 2-fluorobiphenyl	%		Org-012	[NT]	33	70	80	13	68	70
Surrogate 2,4,6-Tribromophenol	%		Org-012	[NT]	33	#	#		89	#
Surrogate *p*-Terphenyl-d_{14}	%		Org-012	[NT]	33	94	106	12	92	102

QUALITY CONTROL: SVOCs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-12	162119-57
Date extracted	-			[NT]	44	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	44	09/03/2017	09/03/2017		09/03/2017	09/03/2017
Phenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	43	53
2-Chlorophenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	83	80
1,4-Dichlorobenzene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	70	67
2-Methylphenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	mg/kg	1	Org-012	[NT]	44	<10	<10	0	[NT]	[NT]
Nitrobenzene	mg/kg	1	Org-012	[NT]	44	<10	<10	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	mg/kg	5	Org-012	[NT]	44	<50	<50	0	[NT]	[NT]
2,4,6-trichlorophenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	[NT]	[NT]
2,4,5-trichlorophenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	[NT]	[NT]
Dimethylphthalate	mg/kg	1	Org-012	[NT]	44	<10	<10	0	57	40
Acenaphthene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	87	#
2,4-dinitrophenol	mg/kg	10	Org-012	[NT]	44	<100	<100	0	[NT]	[NT]
4-nitrophenol	mg/kg	10	Org-012	[NT]	44	<100	<100	0	40	100
diethylphthalate	mg/kg	1	Org-012	[NT]	44	<10	<10	0	110	80
2-methyl-4,6-dinitrophenol	mg/kg	10	Org-012	[NT]	44	<100	<100	0	[NT]	[NT]
pentachlorophenol	mg/kg	5	Org-012	[NT]	44	<50	<50	0	[NT]	[NT]
di-n-butylphthalate	mg/kg	1	Org-012	[NT]	44	<10	<10	0	[NT]	[NT]
Pyrene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	110	#
butylbenzylphthalate	mg/kg	1	Org-012	[NT]	44	<10	<10	0	[NT]	[NT]
di-n-octylphthalate	mg/kg	1	Org-012	[NT]	44	<10	<10	0	[NT]	[NT]
2,6-dichlorophenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	[NT]	[NT]
2,3,4,6-tetrachlorophenol	mg/kg	0.5	Org-012	[NT]	44	<5	<5	0	[NT]	[NT]
Aldrin	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	57	87
Dieldrin	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	57	120
Surrogate Phenol-d_6	%		Org-012	[NT]	44	80	90	12	75	90
Surrogate Nitrobenzene-d_5	%		Org-012	[NT]	44	50	70	33	78	50
Surrogate 2-fluorobiphenyl	%		Org-012	[NT]	44	80	80	0	63	70
Surrogate 2,4,6-Tribromophenol	%		Org-012	[NT]	44	#	#		66	#
Surrogate *p*-Terphenyl-d_{14}	%		Org-012	[NT]	44	120	112	7	96	106

QUALITY CONTROL: SVOCs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	55	08/03/2017	08/03/2017		15/03/2017	[NT]
Date analysed	-			[NT]	55	09/03/2017	09/03/2017		16/03/2017	[NT]
Phenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	45	[NT]
2-Chlorophenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	83	[NT]
2-Methylphenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	mg/kg	1	Org-012	[NT]	55	<10	<10	0	[NT]	[NT]
Nitrobenzene	mg/kg	1	Org-012	[NT]	55	<10	<10	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	mg/kg	5	Org-012	[NT]	55	<50	<50	0	[NT]	[NT]
2,4,6-trichlorophenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	[NT]	[NT]
2,4,5-trichlorophenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	[NT]	[NT]
Dimethylphthalate	mg/kg	1	Org-012	[NT]	55	<10	<10	0	83	[NT]
2,4-dinitrophenol	mg/kg	10	Org-012	[NT]	55	<100	<100	0	[NT]	[NT]
4-nitrophenol	mg/kg	10	Org-012	[NT]	55	<100	<100	0	30	[NT]
diethylphthalate	mg/kg	1	Org-012	[NT]	55	<10	<10	0	85	[NT]
2-methyl-4,6-dinitrophenol	mg/kg	10	Org-012	[NT]	55	<100	<100	0	[NT]	[NT]
pentachlorophenol	mg/kg	5	Org-012	[NT]	55	<50	<50	0	[NT]	[NT]
di-n-butylphthalate	mg/kg	1	Org-012	[NT]	55	<10	<10	0	[NT]	[NT]
butylbenzylphthalate	mg/kg	1	Org-012	[NT]	55	<10	<10	0	[NT]	[NT]
di-n-octylphthalate	mg/kg	1	Org-012	[NT]	55	<10	<10	0	[NT]	[NT]
2,6-dichlorophenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	[NT]	[NT]
2,3,4,6-tetrachlorophenol	mg/kg	0.5	Org-012	[NT]	55	<5	<5	0	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-012	[NT]	55	70	80	13	77	[NT]
Surrogate Nitrobenzene-d_5	%		Org-012	[NT]	55	60	50	18	56	[NT]
Surrogate 2-fluorobiphenyl	%		Org-012	[NT]	55	70	70	0	90	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-012	[NT]	55	#	#		40	[NT]
Surrogate p-Terphenyl-d_{14}	%		Org-012	[NT]	55	112	112	0	113	[NT]
1,4-Dichlorobenzene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	87	[NT]
Acenaphthene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	87	[NT]
Pyrene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	96	[NT]
Aldrin	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	83	[NT]
Dieldrin	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	90	[NT]

QUALITY CONTROL: SVOCs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			[NT]	67	08/03/2017	08/03/2017		15/03/2017	[NT]
Date analysed	-			[NT]	67	09/03/2017	09/03/2017		16/03/2017	[NT]
Phenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	47	[NT]
2-Chlorophenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	87	[NT]
2-Methylphenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	[NT]	[NT]
3/4-Methylphenol	mg/kg	1	Org-012	[NT]	67	<10	<10	0	[NT]	[NT]
Nitrobenzene	mg/kg	1	Org-012	[NT]	67	<10	<10	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	[NT]	[NT]
4-Chloro-3-methylphenol	mg/kg	5	Org-012	[NT]	67	<50	<50	0	[NT]	[NT]
2,4,6-trichlorophenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	[NT]	[NT]
2,4,5-trichlorophenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	[NT]	[NT]
Dimethylphthalate	mg/kg	1	Org-012	[NT]	67	<10	<10	0	77	[NT]
2,4-dinitrophenol	mg/kg	10	Org-012	[NT]	67	<100	<100	0	[NT]	[NT]
4-nitrophenol	mg/kg	10	Org-012	[NT]	67	<100	<100	0	60	[NT]
diethylphthalate	mg/kg	1	Org-012	[NT]	67	<10	<10	0	86	[NT]
2-methyl-4,6-dinitrophenol	mg/kg	10	Org-012	[NT]	67	<100	<100	0	[NT]	[NT]
pentachlorophenol	mg/kg	5	Org-012	[NT]	67	<50	<50	0	[NT]	[NT]
di-n-butylphthalate	mg/kg	1	Org-012	[NT]	67	<10	<10	0	[NT]	[NT]
butylbenzylphthalate	mg/kg	1	Org-012	[NT]	67	<10	<10	0	[NT]	[NT]
di-n-octylphthalate	mg/kg	1	Org-012	[NT]	67	<10	<10	0	[NT]	[NT]
2,6-dichlorophenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	[NT]	[NT]
2,3,4,6-tetrachlorophenol	mg/kg	0.5	Org-012	[NT]	67	<5	<5	0	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-012	[NT]	67	80	70	13	97	[NT]
Surrogate Nitrobenzene-d_5	%		Org-012	[NT]	67	50	60	18	57	[NT]
Surrogate 2-fluorobiphenyl	%		Org-012	[NT]	67	70	70	0	86	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-012	[NT]	67	#	#		96	[NT]
Surrogate p-Terphenyl-d_{14}	%		Org-012	[NT]	67	106	100	6	108	[NT]
1,4-Dichlorobenzene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	90	[NT]
Acenaphthene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	90	[NT]
Pyrene	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	97	[NT]
Aldrin	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	83	[NT]
Dieldrin	mg/kg	0.5	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	67	[NT]

QUALITY CONTROL: VOCs in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-2
Date extracted	-			15/03/2017	1	10/03/2017	10/03/2017		10/03/2017	10/03/2017
Date analysed	-			17/03/2017	1	13/03/2017	13/03/2017		13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-014	<1	1	<1	<1	0	100	100
cis-1,2-dichloroethene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-014	<1	1	<1	<1	0	100	97
2,2-dichloropropane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-014	<1	1	<1	<1	0	99	96
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	1	<1	<1	0	93	98
1,1-dichloropropene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-014	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-014	<1	1	<1	<1	0	100	99
bromodichloromethane	mg/kg	1	Org-014	<1	1	<1	<1	0	99	96
trans-1,3-dichloropropene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-014	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-014	<1	1	<1	<1	0	99	94
1,2-dibromoethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-014	<1	1	<1	<1	0	100	100
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-014	<2	1	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-10	162119-2
1,2,3-trichloropropane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-014	101	1	102	103	1	101	101
Surrogate aaa-Trifluorotoluene	%		Org-014	93	1	88	92	4	83	84
Surrogate Toluene-d_8	%		Org-014	98	1	100	99	1	99	100
Surrogate 4-Bromofluorobenzene	%		Org-014	99	1	99	97	2	101	100

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	162119-34
Date extracted	-			[NT]	33	10/03/2017	10/03/2017		10/03/2017	10/03/2017
Date analysed	-			[NT]	33	13/03/2017	13/03/2017		13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	100	98
cis-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-014	[NT]	33	<1	<1	0	100	92
2,2-dichloropropane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	99	93
1,1,1-trichloroethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	93	94
1,1-dichloropropene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-014	[NT]	33	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	100	95
bromodichloromethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	99	93
trans-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-014	[NT]	33	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	99	91
1,2-dibromoethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	100	93
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-014	[NT]	33	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	162119-34
1,2,3-trichloropropane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	[NT]	33	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-014	[NT]	33	102	106	4	101	103
Surrogate aaa-Trifluorotoluene	%		Org-014	[NT]	33	76	87	13	83	79
Surrogate Toluene-d_8	%		Org-014	[NT]	33	98	99	1	99	97
Surrogate 4-Bromofluorobenzene	%		Org-014	[NT]	33	98	98	0	101	101

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-12	162119-56
Date extracted	-			[NT]	44	10/03/2017	10/03/2017		10/03/2017	10/03/2017
Date analysed	-			[NT]	44	13/03/2017	13/03/2017		13/03/2017	13/03/2017
Dichlorodifluoromethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	130	120
cis-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-014	[NT]	44	<1	<1	0	120	120
2,2-dichloropropane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	120	120
1,1,1-trichloroethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	110	120
1,1-dichloropropene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-014	[NT]	44	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	120	120
bromodichloromethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	120	120
trans-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-014	[NT]	44	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	120	110
1,2-dibromoethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	120	110
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-014	[NT]	44	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-12	162119-56
1,2,3-trichloropropane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	[NT]	44	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-014	[NT]	44	102	107	5	107	108
Surrogate aaa-Trifluorotoluene	%		Org-014	[NT]	44	92	99	7	95	89
Surrogate Toluene-d_8	%		Org-014	[NT]	44	96	98	2	97	97
Surrogate 4-Bromofluorobenzene	%		Org-014	[NT]	44	94	95	1	101	100

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	55	10/03/2017	10/03/2017		15/03/2017	[NT]
Date analysed	-			[NT]	55	13/03/2017	13/03/2017		17/03/2017	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	97	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-014	[NT]	55	<1	<1	0	92	[NT]
2,2-dichloropropane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	93	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	86	[NT]
1,1-dichloropropene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-014	[NT]	55	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	87	[NT]
bromodichloromethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	92	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-014	[NT]	55	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	93	[NT]
1,2-dibromoethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	94	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-014	[NT]	55	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	[NT]	55	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-014	[NT]	55	108	109	1	97	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-014	[NT]	55	94	94	0	80	[NT]
Surrogate Toluene-d_8	%		Org-014	[NT]	55	97	96	1	100	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-014	[NT]	55	95	94	1	100	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			[NT]	67	10/03/2017	10/03/2017		15/03/2017	[NT]
Date analysed	-			[NT]	67	13/03/2017	13/03/2017		17/03/2017	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	120	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
chloroform	mg/kg	1	Org-014	[NT]	67	<1	<1	0	110	[NT]
2,2-dichloropropane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	120	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	100	[NT]
1,1-dichloropropene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-014	[NT]	67	<0.2	<0.2	0	[NT]	[NT]
dibromomethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
trichloroethene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	110	[NT]
bromodichloromethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	110	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-014	[NT]	67	<0.5	<0.5	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	110	[NT]
1,2-dibromoethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	110	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
bromoform	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-014	[NT]	67	<2	<2	0	[NT]	[NT]
styrene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
bromobenzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	[NT]	67	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-014	[NT]	67	109	109	0	96	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-014	[NT]	67	93	95	2	96	[NT]
Surrogate Toluene-d_8	%		Org-014	[NT]	67	97	97	0	100	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-014	[NT]	67	94	94	0	97	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	162119-4
Date prepared	-			08/03/2017	1	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			16/03/2017	1	10/03/2017	10/03/2017		10/03/2017	10/03/2017
Arsenic	mg/kg	4	Metals-020	<4	1	6	6	0	110	100
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	0.5	0.5	0	100	86
Copper	mg/kg	1	Metals-020	<1	1	24	30	22	110	84
Lead	mg/kg	1	Metals-020	<1	1	25	27	8	110	89
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	100	110
Molybdenum	mg/kg	1	Metals-020	<1	1	2	4	67	100	85
Nickel	mg/kg	1	Metals-020	<1	1	43	45	5	98	70
Selenium	mg/kg	2	Metals-020	<2	1	<2	<2	0	100	94
Silver	mg/kg	1	Metals-020	<1	1	<1	<1	0	96	96
Tin	mg/kg	1	Metals-020	<1	1	2	3	40	97	81
Zinc	mg/kg	1	Metals-020	<1	1	170	180	6	99	120

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	162119-36
Date prepared	-			[NT]	33	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	33	10/03/2017	10/03/2017		10/03/2017	10/03/2017
Arsenic	mg/kg	4	Metals-020	[NT]	33	180	160	12	110	110
Cadmium	mg/kg	0.4	Metals-020	[NT]	33	0.5	0.6	18	100	92
Copper	mg/kg	1	Metals-020	[NT]	33	390	410	5	110	81
Lead	mg/kg	1	Metals-020	[NT]	33	330	350	6	100	91
Mercury	mg/kg	0.1	Metals-021	[NT]	33	<0.1	<0.1	0	98	100
Molybdenum	mg/kg	1	Metals-020	[NT]	33	7	8	13	100	92
Nickel	mg/kg	1	Metals-020	[NT]	33	44	46	4	97	81
Selenium	mg/kg	2	Metals-020	[NT]	33	<2	<2	0	99	97
Silver	mg/kg	1	Metals-020	[NT]	33	<1	<1	0	95	97
Tin	mg/kg	1	Metals-020	[NT]	33	16	16	0	95	84
Zinc	mg/kg	1	Metals-020	[NT]	33	3800	3800	0	99	73

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	162119-58
Date prepared	-			[NT]	44	08/03/2017	08/03/2017		08/03/2017	08/03/2017
Date analysed	-			[NT]	44	10/03/2017	10/03/2017		10/03/2017	10/03/2017
Arsenic	mg/kg	4	Metals-020	[NT]	44	410	83	133	110	100
Cadmium	mg/kg	0.4	Metals-020	[NT]	44	0.5	0.5	0	100	86
Copper	mg/kg	1	Metals-020	[NT]	44	450	250	57	100	100
Lead	mg/kg	1	Metals-020	[NT]	44	800	740	8	100	86
Mercury	mg/kg	0.1	Metals-021	[NT]	44	<0.1	<0.1	0	100	100
Molybdenum	mg/kg	1	Metals-020	[NT]	44	9	5	57	98	93
Nickel	mg/kg	1	Metals-020	[NT]	44	84	67	23	96	110
Selenium	mg/kg	2	Metals-020	[NT]	44	<2	<2	0	95	93
Silver	mg/kg	1	Metals-020	[NT]	44	2	1	67	94	93
Tin	mg/kg	1	Metals-020	[NT]	44	20	11	58	96	80
Zinc	mg/kg	1	Metals-020	[NT]	44	3200	3100	3	98	110

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date prepared	-			[NT]	55	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	55	10/03/2017	10/03/2017		10/03/2017	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	55	6	6	0	110	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	55	0.4	0.4	0	99	[NT]
Copper	mg/kg	1	Metals-020	[NT]	55	22	22	0	100	[NT]
Lead	mg/kg	1	Metals-020	[NT]	55	23	20	14	94	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	55	<0.1	<0.1	0	92	[NT]
Molybdenum	mg/kg	1	Metals-020	[NT]	55	3	3	0	100	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	55	43	39	10	97	[NT]
Selenium	mg/kg	2	Metals-020	[NT]	55	<2	<2	0	96	[NT]
Silver	mg/kg	1	Metals-020	[NT]	55	<1	<1	0	100	[NT]
Tin	mg/kg	1	Metals-020	[NT]	55	2	2	0	94	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	55	160	110	37	98	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date prepared	-			[NT]	67	08/03/2017	08/03/2017		08/03/2017	[NT]
Date analysed	-			[NT]	67	10/03/2017	10/03/2017		10/03/2017	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	67	7	6	15	110	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	67	0.5	0.5	0	99	[NT]
Copper	mg/kg	1	Metals-020	[NT]	67	25	30	18	100	[NT]
Lead	mg/kg	1	Metals-020	[NT]	67	27	29	7	93	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	67	<0.1	<0.1	0	97	[NT]
Molybdenum	mg/kg	1	Metals-020	[NT]	67	3	3	0	100	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	67	42	43	2	97	[NT]
Selenium	mg/kg	2	Metals-020	[NT]	67	<2	<2	0	97	[NT]
Silver	mg/kg	1	Metals-020	[NT]	67	<1	<1	0	100	[NT]
Tin	mg/kg	1	Metals-020	[NT]	67	2	5	86	96	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	67	190	250	27	99	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	162119-2
Date prepared	-			13/03/2017	1	08/03/2017	08/03/2017		13/03/2017	13/03/2017
Date analysed	-			13/03/2017	1	13/03/2017	13/03/2017		13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	0.5	Inorg-014	<0.5	1	0.9	0.7	25	100	97
Total Cyanide	mg/kg	0.5	Inorg-014	<0.5	1	110	100	10	110	#

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	162119-34
Date prepared	-			[NT]	33	08/03/2017	08/03/2017		13/03/2017	13/03/2017
Date analysed	-			[NT]	33	13/03/2017	13/03/2017		13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	0.5	Inorg-014	[NT]	33	0.7	0.6	15	100	110
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	33	190	200	5	110	#

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	162119-54
Date prepared	-			[NT]	43	08/03/2017	08/03/2017		13/03/2017	13/03/2017
Date analysed	-			[NT]	43	13/03/2017	13/03/2017		13/03/2017	13/03/2017
Free Cyanide in soil	mg/kg	0.5	Inorg-014	[NT]	43	<0.5	<0.5	0	110	120
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	43	93	91	2	110	#

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	162119-74
Date prepared	-			[NT]	53	08/03/2017	08/03/2017		17/03/2017	17/03/2017
Date analysed	-			[NT]	53	13/03/2017	13/03/2017		17/03/2017	17/03/2017
Free Cyanide in soil	mg/kg	0.5	Inorg-014	[NT]	53	4	3	29	100	100
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	53	250	260	4	100	100

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	162119-94
Date prepared	-			[NT]	63	08/03/2017	08/03/2017		17/03/2017	17/03/2017
Date analysed	-			[NT]	63	13/03/2017	13/03/2017		17/03/2017	17/03/2017
Free Cyanide in soil	mg/kg	0.5	Inorg-014	[NT]	63	3	3	0	100	100
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	63	270	270	0	100	96

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	08/03/2017	08/03/2017		[NT]	[NT]
Date analysed	-			[NT]	11	13/03/2017	13/03/2017		[NT]	[NT]
Free Cyanide in soil	mg/kg	0.5	Inorg-014	[NT]	11	4	3	29	[NT]	[NT]
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	11	190	190	0	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	73	08/03/2017	08/03/2017		[NT]	[NT]
Date analysed	-			[NT]	73	13/03/2017	13/03/2017		[NT]	[NT]
Free Cyanide in soil	mg/kg	0.5	Inorg-014	[NT]	73	0.7	0.7	0	[NT]	[NT]
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	73	3.1	2.4	25	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	83	08/03/2017	08/03/2017		[NT]	[NT]
Date analysed	-			[NT]	83	13/03/2017	13/03/2017		[NT]	[NT]
Free Cyanide in soil	mg/kg	0.5	Inorg-014	[NT]	83	<0.5	<0.5	0	[NT]	[NT]
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	83	1.7	1.6	6	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	93	08/03/2017	08/03/2017		[NT]	[NT]
Date analysed	-			[NT]	93	13/03/2017	13/03/2017		[NT]	[NT]
Free Cyanide in soil	mg/kg	0.5	Inorg-014	[NT]	93	5.5	5.5	0	[NT]	[NT]
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	93	9.3	9.4	1	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	103	08/03/2017	08/03/2017		[NT]	[NT]
Date analysed	-			[NT]	103	13/03/2017	13/03/2017		[NT]	[NT]
Free Cyanide in soil	mg/kg	0.5	Inorg-014	[NT]	103	1	1	0	[NT]	[NT]
Total Cyanide	mg/kg	0.5	Inorg-014	[NT]	103	60	61	2	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	162119-62
Date prepared	-			09/03/2017	1	09/03/2017	09/03/2017		09/03/2017	09/03/2017
Date analysed	-			22/03/2017	1	23/03/2017	23/03/2017		22/03/2017	22/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	<1	1	<1	[NT]		100	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	<50	1	35000	34000	3	80	60

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	162119-82
Date prepared	-			[NT]	11	09/03/2017	09/03/2017		09/03/2017	09/03/2017
Date analysed	-			[NT]	11	23/03/2017	23/03/2017		22/03/2017	22/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	11	<1	[NT]		110	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	11	23000	24000	4	60	100

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	162119-102
Date prepared	-			[NT]	31	09/03/2017	09/03/2017		09/03/2017	09/03/2017
Date analysed	-			[NT]	31	23/03/2017	23/03/2017		22/03/2017	22/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	31	<1	[NT]		100	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	31	25000	26000	4	60	100

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	162119-42
Date prepared	-			[NT]	41	09/03/2017	09/03/2017		09/03/2017	09/03/2017
Date analysed	-			[NT]	41	23/03/2017	23/03/2017		22/03/2017	22/03/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	41	<1	[NT]		99	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	41	22000	30000	31	80	#

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date prepared	-			[NT]	51	09/03/2017	09/03/2017		09/03/2017	[NT]
Date analysed	-			[NT]	51	23/03/2017	23/03/2017		22/03/2017	[NT]
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	51	<1	[NT]		78	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	51	32000	32000	0	100	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	61	09/03/2017	09/03/2017		[NT]	[NT]
Date analysed	-			[NT]	61	23/03/2017	23/03/2017		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	61	<1	[NT]		[NT]	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	61	39000	25000	44	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	71	09/03/2017	09/03/2017		[NT]	[NT]
Date analysed	-			[NT]	71	23/03/2017	23/03/2017		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	71	<1	[NT]		[NT]	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	71	31000	28000	10	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	81	09/03/2017	09/03/2017		[NT]	[NT]
Date analysed	-			[NT]	81	23/03/2017	23/03/2017		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	81	<1	[NT]		[NT]	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	81	43000	44000	2	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	91	09/03/2017	09/03/2017		[NT]	[NT]
Date analysed	-			[NT]	91	23/03/2017	23/03/2017		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	91	<1	[NT]		[NT]	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	91	19000	16000	17	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	101	09/03/2017	09/03/2017		[NT]	[NT]
Date analysed	-			[NT]	101	23/03/2017	23/03/2017		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	101	<1	[NT]		[NT]	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	101	17000	20000	16	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	40	09/03/2017	21/06/2017		[NT]	[NT]
Date analysed	-			[NT]	40	23/03/2017	21/06/2017		[NT]	[NT]
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	[NT]	40	<1	[NT]		[NT]	[NT]
Total Fluoride	mg/kg	50	Inorg-026/53	[NT]	40	410000	97000	123	[NT]	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date analysed	-			08/03/2017	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Date prepared	-			08/03/2017	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Fluoride in TCLPs	mg/L	0.1	Inorg-026	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Fluoride in TCLPs	mg/L	0.1	Inorg-026	[NT]	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Fluoride in TCLPs	mg/L	0.1	Inorg-026	[NT]	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Fluoride in TCLPs	mg/L	0.1	Inorg-026	[NT]	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	08/03/2017	[NT]
Fluoride in TCLPs	mg/L	0.1	Inorg-026	[NT]	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: PAHs in TCLP (USEPA 1311)					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			07/04/2017	[NT]	[NT]	[NT]	[NT]	17/03/2017	[NT]
Date analysed	-			07/04/2017	[NT]	[NT]	[NT]	[NT]	17/03/2017	[NT]
Naphthalene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	70	[NT]
Acenaphthylene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	71	[NT]
Phenanthrene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	83	[NT]
Anthracene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	81	[NT]
Pyrene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	81	[NT]
Benzo(a)anthracene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	64	[NT]
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	Org-012	<0.002	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	65	[NT]
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	79	[NT]	[NT]	[NT]	[NT]	73	[NT]

QUALITY CONTROL: PAHs in TCLP (USEPA 1311)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			[NT]	[NT]	[NT]	[NT]	[NT]	28/03/2017	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	28/03/2017	[NT]
Naphthalene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	86	[NT]
Fluorene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	83	[NT]
Phenanthrene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	91	[NT]
Fluoranthene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	85	[NT]
Pyrene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	81	[NT]
Chrysene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	85	[NT]
Benzo(a)pyrene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	89	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	75	[NT]

QUALITY CONTROL: PAHs in TCLP (USEPA 1311)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			[NT]	[NT]	[NT]	[NT]	[NT]	07/04/2017	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	07/04/2017	[NT]
Naphthalene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	89	[NT]
Fluorene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	110	[NT]
Phenanthrene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	120	[NT]
Fluoranthene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	120	[NT]
Pyrene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	110	[NT]
Chrysene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	87	[NT]
Benzo(a)pyrene in TCLP	mg/L	0.001	Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	87	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	[NT]	[NT]	[NT]	[NT]	78	[NT]

QUALITY CONTROL: TCLP - ASLP4439.3					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			10/03/2017	[NT]	[NT]	[NT]	[NT]	10/03/2017	[NT]
Date analysed	-			10/03/2017	[NT]	[NT]	[NT]	[NT]	10/03/2017	[NT]
Total Cyanide in ASLPs	mg/L	0.004	Inorg-014	<0.004	[NT]	[NT]	[NT]	[NT]	110	[NT]

QUALITY CONTROL: TCLP - ASLP4439.3					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	10/03/2017	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	10/03/2017	[NT]
Total Cyanide in ASLPs	mg/L	0.004	Inorg-014	[NT]	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: TCLP - ASLP4439.3					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	10/03/2017	[NT]
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	10/03/2017	[NT]
Total Cyanide in ASLPs	mg/L	0.004	Inorg-014	[NT]	[NT]	[NT]	[NT]	[NT]	120	[NT]

Result Definitions

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

Quality Control Definitions

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

PAH_S:
Percent recovery is not possible to report as the high concentration of analytes in the sample/s have caused interference.
PQL has been raised due to interference from analytes(other than those being tested)
in the sample/s.

OC/OP_S: # Percent recovery is not possible to report as the high concentration of analytes in the sample/s have caused interference.
PQL has been raised due to interference from analytes(other than those being tested)
in the sample/s.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria
has been exceeded for 162119-44 for As, Cu, Mo, Sn. Therefore a triplicate result has
been issued as laboratory sample number 162119-109.

SVOC in soil:
PQL has been raised due to interference from analytes(other than those being tested)
in the sample/s.
Percent recovery is not possible to report due to interference from analytes
(other than those being tested) in the sample/s.

Sample 162119-40 was repeated in duplicate and triplicate as the Fluoride
result was very high. The triplicate is present as sample 162119-110.

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CERTIFICATE OF ANALYSIS 162119-D

Client Details

Client	Ramboll Environ Australia Pty Ltd
Attention	Fiona Robinson, Stephen Cadman
Address	PO Box 560, North Sydney, NSW, 2060

Sample Details

Your Reference	**Hydro Aluminium AS130515 Monoliths Filtered**
Number of Samples	Monolith LEAF testing
Date samples received	17/02/2017
Date completed instructions received	17/02/2017

Analysis Details

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

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

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

Report Details

Date results requested by	02/06/2017
Date of Issue	08/06/2017

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Report Comments

Where Rock samples were provided for LEAF analysis, the exposed surface area calculated is an estimate only.

Note, Organics are not recommended in USEPA 1315, however, there is a modified USEPA method i.e. 1315M that is being used in the US but is yet to be finally approved.

Results Approved By
Simon Mills, Group R&D Manager

Authorised By



David Springer, General Manager

PAHs in Eluates						
Our Reference		162119-D-1	162119-D-2	162119-D-3	162119-D-4	162119-D-5
Your Reference	UNITS	MW201_>125 T01	MW201_>125 T02	MW201_>125 T03	MW201_>125 T04	MW201_>125 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/03/2017	28/03/2017	05/04/2017	07/04/2017	07/04/2017
Date analysed	-	25/03/2017	29/03/2017	06/04/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	1	<1	<1	<1	<1
Chrysene	µg/L	2	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	5	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	10	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	100	60	95	71	105

PAHs in Eluates						
Our Reference		162119-D-6	162119-D-7	162119-D-8	162119-D-9	162119-D-10
Your Reference	UNITS	MW201_>125 T06	MW201_>125 T07	MW201_>125 T08	MW201_>125 T09	MW202_>125 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/04/2017	5/05/2017	12/05/2017	26/05/2017	24/03/2017
Date analysed	-	24/04/2017	8/05/2017	15/05/2017	29/05/2017	25/03/2017
Naphthalene	µg/L	<1	<1	2	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	2.1	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	84	107	111	68	112

PAHs in Eluates						
Our Reference		162119-D-11	162119-D-12	162119-D-13	162119-D-14	162119-D-15
Your Reference	UNITS	MW202_>125 T02	MW202_>125 T03	MW202_>125 T04	MW202_>125 T05	MW202_>125 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	28/03/2017	05/04/2017	07/04/2017	07/04/2017	24/04/2017
Date analysed	-	29/03/2017	06/04/2017	07/04/2017	07/04/2017	24/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	73	125	71	109	99

PAHs in Eluates						
Our Reference		162119-D-16	162119-D-17	162119-D-18	162119-D-19	162119-D-20
Your Reference	UNITS	MW202_>125 T07	MW202_>125 T08	MW202_>125 T09	MW203_>125 T01	MW203_>125 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	24/03/2017	28/03/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	25/03/2017	29/03/2017
Naphthalene	µg/L	<1	2	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	1.7	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	98	97	80	116	76

PAHs in Eluates						
Our Reference		162119-D-21	162119-D-22	162119-D-23	162119-D-24	162119-D-25
Your Reference	UNITS	MW203_>125 T03	MW203_>125 T04	MW203_>125 T05	MW203_>125 T06	MW203_>125 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	05/04/2017	07/04/2017	07/04/2017	24/04/2017	5/05/2017
Date analysed	-	06/04/2017	07/04/2017	07/04/2017	24/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	105	78	106	105	97

PAHs in Eluates						
Our Reference		162119-D-26	162119-D-27	162119-D-28	162119-D-29	162119-D-30
Your Reference	UNITS	MW203_>125 T08	MW203_>125 T09	MW204_>125 T01	MW204_>125 T02	MW204_>125 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	12/05/2017	26/05/2017	24/03/2017	28/03/2017	05/04/2017
Date analysed	-	15/05/2017	29/05/2017	25/03/2017	29/03/2017	06/04/2017
Naphthalene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1.2	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	116	87	134	63	96

PAHs in Eluates						
Our Reference		162119-D-31	162119-D-32	162119-D-33	162119-D-34	162119-D-35
Your Reference	UNITS	MW204_>125 T04	MW204_>125 T05	MW204_>125 T06	MW204_>125 T07	MW204_>125 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	07/04/2017	07/04/2017	24/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	07/04/2017	24/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	78	110	112	118	121

PAHs in Eluates						
Our Reference		162119-D-36	162119-D-37	162119-D-38	162119-D-39	162119-D-40
Your Reference	UNITS	MW204_>125 T09	MW205_>125 T01	MW205_>125 T02	MW205_>125 T03	MW205_>125 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	26/05/2017	24/03/2017	28/03/2017	05/04/2017	07/04/2017
Date analysed	-	29/05/2017	25/03/2017	29/03/2017	06/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	70	86	77	108	89

PAHs in Eluates						
Our Reference		162119-D-41	162119-D-42	162119-D-43	162119-D-44	162119-D-45
Your Reference	UNITS	MW205_>125 T05	MW205_>125 T06	MW205_>125 T07	MW205_>125 T08	MW205_>125 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	07/04/2017	24/04/2017	5/05/2017	12/05/2017	26/05/2017
Date analysed	-	07/04/2017	24/04/2017	8/05/2017	15/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	70	109	94	124	92

PAHs in Eluates						
Our Reference		162119-D-46	162119-D-47	162119-D-48	162119-D-49	162119-D-50
Your Reference	UNITS	MW206_>125 T01	MW206_>125 T02	MW206_>125 T03	MW206_>125 T04	MW206_>125 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/03/2017	28/03/2017	05/04/2017	07/04/2017	07/04/2017
Date analysed	-	25/03/2017	29/03/2017	06/04/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	90	87	108	85	108

PAHs in Eluates						
Our Reference		162119-D-51	162119-D-52	162119-D-53	162119-D-54	162119-D-55
Your Reference	UNITS	MW206_>125 T06	MW206_>125 T07	MW206_>125 T08	MW206_>125 T09	SPL_First Cut_1 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/04/2017	5/05/2017	07/04/2017	26/05/2017	24/03/2017
Date analysed	-	24/04/2017	8/05/2017	15/05/2017	29/05/2017	25/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	112	93	104	85	104

PAHs in Eluates						
Our Reference		162119-D-56	162119-D-57	162119-D-58	162119-D-59	162119-D-60
Your Reference	UNITS	SPL_First Cut_1 T02	SPL_First Cut_1 T03	SPL_First Cut_1 T04	SPL_First Cut_1 T05	SPL_First Cut_1 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	28/03/2017	05/04/2017	07/04/2017	07/04/2017	24/04/2017
Date analysed	-	29/03/2017	06/04/2017	07/04/2017	07/04/2017	24/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	78	101	83	104	106

PAHs in Eluates						
Our Reference		162119-D-61	162119-D-62	162119-D-63	162119-D-64	162119-D-65
Your Reference	UNITS	SPL_First Cut_1 T07	SPL_First Cut_1 T08	SPL_First Cut_1 T09	SPL_First Cut_2 T01	SPL_First Cut_2 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	24/03/2017	28/03/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	25/03/2017	29/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	104	114	98	94	87

PAHs in Eluates						
Our Reference		162119-D-66	162119-D-67	162119-D-68	162119-D-69	162119-D-70
Your Reference	UNITS	SPL_First Cut_2 T03	SPL_First Cut_2 T04	SPL_First Cut_2 T05	SPL_First Cut_2 T06	SPL_First Cut_2 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	05/04/2017	07/04/2017	07/04/2017	24/04/2017	5/05/2017
Date analysed	-	06/04/2017	07/04/2017	07/04/2017	24/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	122	71	101	79	105

PAHs in Eluates						
Our Reference		162119-D-71	162119-D-72	162119-D-73	162119-D-74	162119-D-75
Your Reference	UNITS	SPL_First Cut_2 T08	SPL_First Cut_2 T09	SPL_First Cut_3 T01	SPL_First Cut_3 T02	SPL_First Cut_3 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	12/05/2017	26/05/2017	24/03/2017	28/03/2017	05/04/2017
Date analysed	-	15/05/2017	29/05/2017	25/03/2017	29/03/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	92	108	98	83	96

PAHs in Eluates						
Our Reference		162119-D-76	162119-D-77	162119-D-78	162119-D-79	162119-D-80
Your Reference	UNITS	SPL_First Cut_3 T04	SPL_First Cut_3 T05	SPL_First Cut_3 T06	SPL_First Cut_3 T07	SPL_First Cut_3 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	07/04/2017	07/04/2017	24/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	07/04/2017	24/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	90	109	120	125	107

PAHs in Eluates						
Our Reference		162119-D-81	162119-D-82	162119-D-83	162119-D-84	162119-D-85
Your Reference	UNITS	SPL_First Cut_3 T09	SPL_First Cut_4 T01	SPL_First Cut_4 T02	SPL_First Cut_4 T03	SPL_First Cut_4 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	26/05/2017	24/03/2017	28/03/2017	05/04/2017	07/04/2017
Date analysed	-	29/05/2017	25/03/2017	29/03/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	100	82	86	96	86

PAHs in Eluates						
Our Reference		162119-D-86	162119-D-87	162119-D-88	162119-D-89	162119-D-90
Your Reference	UNITS	SPL_First Cut_4 T05	SPL_First Cut_4 T06	SPL_First Cut_4 T07	SPL_First Cut_4 T08	SPL_First Cut_4 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	07/04/2017	24/04/2017	5/05/2017	12/05/2017	26/05/2017
Date analysed	-	07/04/2017	24/04/2017	8/05/2017	15/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	107	123	128	115	97

PAHs in Eluates						
Our Reference		162119-D-91	162119-D-92	162119-D-93	162119-D-94	162119-D-95
Your Reference	UNITS	SPL_First Cut_5 T01	SPL_First Cut_5 T02	SPL_First Cut_5 T03	SPL_First Cut_5 T04	SPL_First Cut_5 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/03/2017	28/03/2017	05/04/2017	07/04/2017	07/04/2017
Date analysed	-	25/03/2017	29/03/2017	07/04/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	92	116	80	99	107

PAHs in Eluates						
Our Reference		162119-D-96	162119-D-97	162119-D-98	162119-D-99	162119-D-100
Your Reference	UNITS	SPL_First Cut_5 T06	SPL_First Cut_5 T07	SPL_First Cut_5 T08	SPL_First Cut_5 T09	SPL_Second Cut_1 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/04/2017	5/05/2017	12/05/2017	26/05/2017	24/03/2017
Date analysed	-	24/04/2017	8/05/2017	15/05/2017	29/05/2017	25/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	104	110	107	101	78

PAHs in Eluates						
Our Reference		162119-D-101	162119-D-102	162119-D-103	162119-D-104	162119-D-105
Your Reference	UNITS	SPL_Second Cut_1 T02	SPL_Second Cut_1 T03	SPL_Second Cut_1 T04	SPL_Second Cut_1 T05	SPL_Second Cut_1 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	28/03/2017	05/04/2017	07/04/2017	07/04/2017	24/04/2017
Date analysed	-	29/03/2017	07/04/2017	07/04/2017	07/04/2017	24/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	112	75	80	99	106

PAHs in Eluates						
Our Reference		162119-D-106	162119-D-107	162119-D-108	162119-D-109	162119-D-110
Your Reference	UNITS	SPL_Second Cut_1 T07	SPL_Second Cut_1 T08	SPL_Second Cut_1 T09	SPL_Second Cut_2 T01	SPL_Second Cut_2 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	24/03/2017	28/03/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	25/03/2017	29/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	104	114	135	88	78

PAHs in Eluates						
Our Reference		162119-D-111	162119-D-112	162119-D-113	162119-D-114	162119-D-115
Your Reference	UNITS	SPL_Second Cut_2 T03	SPL_Second Cut_2 T04	SPL_Second Cut_2 T05	SPL_Second Cut_2 T06	SPL_Second Cut_2 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	05/04/2017	07/04/2017	07/04/2017	24/04/2017	5/05/2017
Date analysed	-	07/04/2017	07/04/2017	07/04/2017	24/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	68	80	111	112	108

PAHs in Eluates						
Our Reference		162119-D-116	162119-D-117	162119-D-118	162119-D-119	162119-D-120
Your Reference	UNITS	SPL_Second Cut_2 T08	SPL_Second Cut_2 T09	SPL_Second Cut_3 T01	SPL_Second Cut_3 T02	SPL_Second Cut_3 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	12/05/2017	26/05/2017	24/03/2017	28/03/2017	05/04/2017
Date analysed	-	15/05/2017	29/05/2017	25/03/2017	29/03/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	101	92	78	78	71

PAHs in Eluates						
Our Reference		162119-D-121	162119-D-122	162119-D-123	162119-D-124	162119-D-125
Your Reference	UNITS	SPL_Second Cut_3 T04	SPL_Second Cut_3 T05	SPL_Second Cut_3 T06	SPL_Second Cut_3 T07	SPL_Second Cut_3 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	07/04/2017	07/04/2017	24/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	07/04/2017	24/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	84	102	118	85	115

PAHs in Eluates						
Our Reference		162119-D-126	162119-D-127	162119-D-128	162119-D-129	162119-D-130
Your Reference	UNITS	SPL_Second Cut_3 T09	SPL_Second Cut_4 T01	SPL_Second Cut_4 T02	SPL_Second Cut_4 T03	SPL_Second Cut_4 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	26/05/2017	27/03/2017	28/03/2017	05/04/2017	07/04/2017
Date analysed	-	29/05/2017	28/03/2017	29/03/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	90	60	82	77	76

PAHs in Eluates						
Our Reference		162119-D-131	162119-D-132	162119-D-133	162119-D-134	162119-D-135
Your Reference	UNITS	SPL_Second Cut_4 T05	SPL_Second Cut_4 T06	SPL_Second Cut_4 T07	SPL_Second Cut_4 T08	SPL_Second Cut_4 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	07/04/2017	24/04/2017	5/05/2017	12/05/2017	26/05/2017
Date analysed	-	07/04/2017	24/04/2017	8/05/2017	15/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	102	108	105	120	84

PAHs in Eluates						
Our Reference		162119-D-136	162119-D-137	162119-D-138	162119-D-139	162119-D-140
Your Reference	UNITS	SPL_Second Cut_5 T01	SPL_Second Cut_5 T02	SPL_Second Cut_5 T03	SPL_Second Cut_5 T04	SPL_Second Cut_5 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	27/03/2017	28/03/2017	05/04/2017	07/04/2017	11/04/2017
Date analysed	-	28/03/2017	29/03/2017	07/04/2017	07/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	71	83	78	80	121

PAHs in Eluates						
Our Reference		162119-D-141	162119-D-142	162119-D-143	162119-D-144	162119-D-145
Your Reference	UNITS	SPL_Second Cut_5 T06	SPL_Second Cut_5 T07	SPL_Second Cut_5 T08	SPL_Second Cut_5 T09	MW201 - 2nd sub-sample>125mm T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/04/2017	5/05/2017	12/05/2017	26/05/2017	27/03/2017
Date analysed	-	24/04/2017	8/05/2017	15/05/2017	29/05/2017	28/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	113	102	119	102	60

PAHs in Eluates						
Our Reference		162119-D-146	162119-D-147	162119-D-148	162119-D-149	162119-D-150
Your Reference	UNITS	MW201 - 2nd sub-sample>125mm T02	MW201 - 2nd sub-sample>125mm T03	MW201 - 2nd sub-sample>125mm T04	MW201 - 2nd sub-sample>125mm T05	MW201 - 2nd sub-sample>125mm T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	28/03/2017	05/04/2017	07/04/2017	11/04/2017	24/04/2017
Date analysed	-	30/03/2017	07/04/2017	07/04/2017	11/04/2017	24/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	82	69	71	118	99

PAHs in Eluates						
Our Reference		162119-D-151	162119-D-152	162119-D-153	162119-D-154	162119-D-155
Your Reference	UNITS	MW201 - 2nd sub-sample>125mm T07	MW201 - 2nd sub-sample>125mm T08	MW201 - 2nd sub-sample>125mm T09	MW202 - 2nd sub-sample>125mm T01	MW202 - 2nd sub-sample>125mm T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	27/03/2017	28/03/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	28/03/2017	30/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	92	117	94	60	72

PAHs in Eluates						
Our Reference		162119-D-156	162119-D-157	162119-D-158	162119-D-159	162119-D-160
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm T03	MW202 - 2nd sub-sample>125mm T04	MW202 - 2nd sub-sample>125mm T05	MW202 - 2nd sub-sample>125mm T06	MW202 - 2nd sub-sample>125mm T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	05/04/2017	07/04/2017	11/04/2017	24/04/2017	5/05/2017
Date analysed	-	07/04/2017	07/04/2017	11/04/2017	24/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	97	88	115	81	100

PAHs in Eluates						
Our Reference		162119-D-161	162119-D-162	162119-D-163	162119-D-164	162119-D-165
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm T08	MW202 - 2nd sub-sample>125mm T09	MW203 - 2nd sub-sample>125mm T01	MW203 - 2nd sub-sample>125mm T02	MW203 - 2nd sub-sample>125mm T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	12/05/2017	26/05/2017	27/03/2017	28/03/2017	06/04/2017
Date analysed	-	15/05/2017	29/05/2017	28/03/2017	30/03/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	97	81	68	81	81

PAHs in Eluates						
Our Reference		162119-D-166	162119-D-167	162119-D-168	162119-D-169	162119-D-170
Your Reference	UNITS	MW203 - 2nd sub-sample>125mm T04	MW203 - 2nd sub-sample>125mm T05	MW203 - 2nd sub-sample>125mm T06	MW203 - 2nd sub-sample>125mm T07	MW203 - 2nd sub-sample>125mm T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	07/04/2017	11/04/2017	24/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	11/04/2017	24/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	85	109	107	89	118

PAHs in Eluates						
Our Reference		162119-D-171	162119-D-172	162119-D-173	162119-D-174	162119-D-175
Your Reference	UNITS	MW203 - 2nd sub-sample>125mm T09	MW204 - 2nd sub-sample>125mm T01	MW204 - 2nd sub-sample>125mm T02	MW204 - 2nd sub-sample>125mm T03	MW204 - 2nd sub-sample>125mm T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	29/05/2017	27/03/2017	28/03/2017	06/04/2017	07/04/2017
Date analysed	-	30/05/2017	28/03/2017	30/03/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	94	90	71	74	90

PAHs in Eluates						
Our Reference		162119-D-176	162119-D-177	162119-D-178	162119-D-179	162119-D-180
Your Reference	UNITS	MW204 - 2nd sub-sample>125mm T05	MW204 - 2nd sub-sample>125mm T06	MW204 - 2nd sub-sample>125mm T07	MW204 - 2nd sub-sample>125mm T08	MW204 - 2nd sub-sample>125mm T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	11/04/2017	24/04/2017	5/05/2017	12/05/2017	29/05/2017
Date analysed	-	11/04/2017	24/04/2017	8/05/2017	15/05/2017	30/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	118	100	121	115	114

PAHs in Eluates						
Our Reference		162119-D-181	162119-D-182	162119-D-183	162119-D-184	162119-D-185
Your Reference	UNITS	MW205 - 2nd sub-sample>125mm T01	MW205 - 2nd sub-sample>125mm T02	MW205 - 2nd sub-sample>125mm T03	MW205 - 2nd sub-sample>125mm T04	MW205 - 2nd sub-sample>125mm T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	27/03/2017	28/03/2017	06/04/2017	07/04/2017	11/04/2017
Date analysed	-	28/03/2017	30/03/2017	07/04/2017	07/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	88	76	72	89	85

PAHs in Eluates						
Our Reference		162119-D-186	162119-D-187	162119-D-188	162119-D-189	162119-D-190
Your Reference	UNITS	MW205 - 2nd sub-sample>125mm T06	MW205 - 2nd sub-sample>125mm T07	MW205 - 2nd sub-sample>125mm T08	MW205 - 2nd sub-sample>125mm T09	MW206 - 2nd sub-sample>125mm T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/04/2017	5/05/2017	12/05/2017	29/05/2017	27/03/2017
Date analysed	-	24/04/2017	8/05/2017	15/05/2017	30/05/2017	28/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	110	106	118	94	81

PAHs in Eluates						
Our Reference		162119-D-191	162119-D-192	162119-D-193	162119-D-194	162119-D-195
Your Reference	UNITS	MW206 - 2nd sub-sample>125mm T02	MW206 - 2nd sub-sample>125mm T03	MW206 - 2nd sub-sample>125mm T04	MW206 - 2nd sub-sample>125mm T05	MW206 - 2nd sub-sample>125mm T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	28/03/2017	06/04/2017	07/04/2017	11/04/2017	24/04/2017
Date analysed	-	30/03/2017	07/04/2017	07/04/2017	11/04/2017	24/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	1	<1
Chrysene	µg/L	<1	<1	<1	1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	2.4	NIL (+)VE
Surrogate p-Terphenyl-d14	%	70	87	82	92	104

PAHs in Eluates						
Our Reference		162119-D-196	162119-D-197	162119-D-198	162119-D-199	162119-D-200
Your Reference	UNITS	MW206 - 2nd sub-sample>125mm T07	MW206 - 2nd sub-sample>125mm T08	MW206 - 2nd sub-sample>125mm T09	MW201 + 50% Lime WET T01	MW201 + 50% Lime WET T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	5/05/2017	12/05/2017	29/05/2017	27/03/2017	28/03/2017
Date analysed	-	8/05/2017	15/05/2017	30/05/2017	28/03/2017	30/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	110	116	111	90	74

PAHs in Eluates						
Our Reference		162119-D-201	162119-D-202	162119-D-203	162119-D-204	162119-D-205
Your Reference	UNITS	MW201 + 50% Lime WET T03	MW201 + 50% Lime WET T04	MW201 + 50% Lime WET T05	MW201 + 50% Lime WET T06	MW201 + 50% Lime WET T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	06/04/2017	07/04/2017	11/04/2017	24/04/2017	5/05/2017
Date analysed	-	07/04/2017	07/04/2017	11/04/2017	24/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	66	73	106	104	100

PAHs in Eluates						
Our Reference		162119-D-206	162119-D-207	162119-D-208	162119-D-209	162119-D-210
Your Reference	UNITS	MW201 + 50% Lime WET T08	MW201 + 50% Lime WET T09	MW202 + 50% Lime WET T01	MW202 + 50% Lime WET T02	MW202 + 50% Lime WET T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	12/05/2017	29/05/2017	27/03/2017	28/03/2017	06/04/2017
Date analysed	-	15/05/2017	30/05/2017	28/03/2017	30/03/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	112	92	75	70	66

PAHs in Eluates						
Our Reference		162119-D-211	162119-D-212	162119-D-213	162119-D-214	162119-D-215
Your Reference	UNITS	MW202 + 50% Lime WET T04	MW202 + 50% Lime WET T05	MW202 + 50% Lime WET T06	MW202 + 50% Lime WET T07	MW202 + 50% Lime WET T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	11/04/2017	11/04/2017	24/04/2017	5/05/2017	12/05/2017
Date analysed	-	11/04/2017	11/04/2017	24/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	2	1	2	2	2
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	2	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1.7	1	2.3	3.3	2.5
Surrogate p-Terphenyl-d14	%	76	111	110	93	111

PAHs in Eluates						
Our Reference		162119-D-216	162119-D-217	162119-D-218	162119-D-219	162119-D-220
Your Reference	UNITS	MW202 + 50% Lime WET T09	MW203 + 50% Lime WET T01	MW203 + 50% Lime WET T02	MW203 + 50% Lime WET T03	MW203 + 50% Lime WET T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	29/05/2017	27/03/2017	28/03/2017	06/04/2017	07/04/2017
Date analysed	-	30/05/2017	28/03/2017	30/03/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	2	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	2.2	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	76	80	85	73	75

PAHs in Eluates						
Our Reference		162119-D-221	162119-D-222	162119-D-223	162119-D-224	162119-D-225
Your Reference	UNITS	MW203 + 50% Lime WET T05	MW203 + 50% Lime WET T06	MW203 + 50% Lime WET T07	MW203 + 50% Lime WET T08	MW203 + 50% Lime WET T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	11/04/2017	24/04/2017	5/05/2017	12/05/2017	29/05/2017
Date analysed	-	11/04/2017	24/04/2017	8/05/2017	15/05/2017	30/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	113	109	110	120	91

PAHs in Eluates						
Our Reference		162119-D-226	162119-D-227	162119-D-228	162119-D-229	162119-D-230
Your Reference	UNITS	MW204 + 50% Lime WET T01	MW204 + 50% Lime WET T02	MW204 + 50% Lime WET T03	MW204 + 50% Lime WET T04	MW204 + 50% Lime WET T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	27/03/2017	28/03/2017	06/04/2017	07/04/2017	11/04/2017
Date analysed	-	28/03/2017	30/03/2017	07/04/2017	07/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	73	88	74	69	63

PAHs in Eluates						
Our Reference		162119-D-231	162119-D-232	162119-D-233	162119-D-234	162119-D-235
Your Reference	UNITS	MW204 + 50% Lime WET T06	MW204 + 50% Lime WET T07	MW204 + 50% Lime WET T08	MW204 + 50% Lime WET T09	MW205 + 50% Lime WET T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/04/2017	12/05/2017	07/04/2017	29/05/2017	27/03/2017
Date analysed	-	24/04/2017	15/05/2017	15/05/2017	30/05/2017	28/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	115	120	103	91	86

PAHs in Eluates						
Our Reference		162119-D-236	162119-D-237	162119-D-238	162119-D-239	162119-D-240
Your Reference	UNITS	MW205 + 50% Lime WET T02	MW205 + 50% Lime WET T03	MW205 + 50% Lime WET T04	MW205 + 50% Lime WET T05	MW205 + 50% Lime WET T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	28/03/2017	06/04/2017	07/04/2017	11/04/2017	24/04/2017
Date analysed	-	30/03/2017	07/04/2017	07/04/2017	11/04/2017	24/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	68	72	76	61	110

PAHs in Eluates						
Our Reference		162119-D-241	162119-D-242	162119-D-243	162119-D-244	162119-D-245
Your Reference	UNITS	MW205 + 50% Lime WET T07	MW205 + 50% Lime WET T08	MW205 + 50% Lime WET T09	MW206 + 50% Lime WET T01	MW206 + 50% Lime WET T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	5/05/2017	12/05/2017	29/05/2017	27/03/2017	31/03/2017
Date analysed	-	8/05/2017	15/05/2017	30/05/2017	28/03/2017	31/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	115	102	92	89	65

PAHs in Eluates						
Our Reference		162119-D-246	162119-D-247	162119-D-248	162119-D-249	162119-D-250
Your Reference	UNITS	MW206 + 50% Lime WET T03	MW206 + 50% Lime WET T04	MW206 + 50% Lime WET T05	MW206 + 50% Lime WET T06	MW206 + 50% Lime WET T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	06/04/2017	07/04/2017	19/04/2017	24/04/2017	5/05/2017
Date analysed	-	07/04/2017	07/04/2017	19/04/2017	24/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	1.2	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	76	68	77	94	112

PAHs in Eluates						
Our Reference		162119-D-251	162119-D-252	162119-D-253	162119-D-254	162119-D-255
Your Reference	UNITS	MW206 + 50% Lime WET T08	MW206 + 50% Lime WET T09	MW201 + 30% Cement WET T01	MW201 + 30% Cement WET T02	MW201 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	12/05/2017	29/05/2017	27/03/2017	31/03/2017	07/04/2017
Date analysed	-	15/05/2017	30/05/2017	28/03/2017	31/03/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	85	89	75	68	79

PAHs in Eluates						
Our Reference		162119-D-256	162119-D-257	162119-D-258	162119-D-259	162119-D-260
Your Reference	UNITS	MW201 + 30% Cement WET T04	MW201 + 30% Cement WET T05	MW201 + 30% Cement WET T06	MW201 + 30% Cement WET T07	MW201 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	07/04/2017	19/04/2017	24/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	19/04/2017	24/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	81	60	106	116	115

PAHs in Eluates						
Our Reference		162119-D-261	162119-D-262	162119-D-263	162119-D-264	162119-D-265
Your Reference	UNITS	MW201 + 30% Cement WET T09	MW202 + 30% Cement WET T01	MW202 + 30% Cement WET T02	MW202 + 30% Cement WET T03	MW202 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	29/05/2017	28/03/2017	31/03/2017	07/04/2017	07/04/2017
Date analysed	-	30/05/2017	28/03/2017	31/03/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	2
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	2.0
Surrogate p-Terphenyl-d14	%	92	64	106	73	69

PAHs in Eluates						
Our Reference		162119-D-266	162119-D-267	162119-D-268	162119-D-269	162119-D-270
Your Reference	UNITS	MW202 + 30% Cement WET T05	MW202 + 30% Cement WET T06	MW202 + 30% Cement WET T07	MW202 + 30% Cement WET T08	MW202 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	19/04/2017	24/04/2017	5/05/2017	12/05/2017	29/05/2017
Date analysed	-	19/04/2017	24/04/2017	8/05/2017	15/05/2017	30/05/2017
Naphthalene	µg/L	<1	2	2	3	1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	2	2	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	2.5	3.9	4.8	1.3
Surrogate p-Terphenyl-d14	%	62	109	102	113	87

PAHs in Eluates						
Our Reference		162119-D-271	162119-D-272	162119-D-273	162119-D-274	162119-D-275
Your Reference	UNITS	MW203+ 30% Cement WET T01	MW203+ 30% Cement WET T02	MW203+ 30% Cement WET T03	MW203+ 30% Cement WET T04	MW203+ 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	28/03/2017	31/03/2017	07/04/2017	07/04/2017	19/04/2017
Date analysed	-	28/03/2017	31/03/2017	07/04/2017	07/04/2017	19/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	80	112	69	62	60

PAHs in Eluates						
Our Reference		162119-D-276	162119-D-277	162119-D-278	162119-D-279	162119-D-280
Your Reference	UNITS	MW203+ 30% Cement WET T06	MW203+ 30% Cement WET T07	MW203+ 30% Cement WET T08	MW203+ 30% Cement WET T09	MW204 + 30% Cement WET T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	24/04/2017	5/05/2017	12/05/2017	29/05/2017	28/03/2017
Date analysed	-	24/04/2017	8/05/2017	15/05/2017	30/05/2017	28/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	100	103	112	88	84

PAHs in Eluates						
Our Reference		162119-D-281	162119-D-282	162119-D-283	162119-D-284	162119-D-285
Your Reference	UNITS	MW204 + 30% Cement WET T02	MW204 + 30% Cement WET T03	MW204 + 30% Cement WET T04	MW204 + 30% Cement WET T05	MW204 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	31/03/2017	07/04/2017	07/04/2017	19/04/2017	24/04/2017
Date analysed	-	31/03/2017	07/04/2017	07/04/2017	19/04/2017	24/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	62	65	70	74	112

PAHs in Eluates						
Our Reference		162119-D-286	162119-D-287	162119-D-288	162119-D-298	162119-D-299
Your Reference	UNITS	MW204 + 30% Cement WET T07	MW204 + 30% Cement WET T08	MW204 + 30% Cement WET T09	MW206 + 30% Cement WET T01	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	5/05/2017	12/05/2017	29/05/2017	28/03/2017	31/03/2017
Date analysed	-	8/05/2017	15/05/2017	30/05/2017	28/03/2017	31/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	97	125	88	82	112

PAHs in Eluates						
Our Reference		162119-D-300	162119-D-301	162119-D-302	162119-D-303	162119-D-304
Your Reference	UNITS	MW206 + 30% Cement WET T03	MW206 + 30% Cement WET T04	MW206 + 30% Cement WET T05	MW206 + 30% Cement WET T06	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	07/04/2017	07/04/2017	19/04/2017	24/04/2017	5/05/2017
Date analysed	-	07/04/2017	07/04/2017	19/04/2017	24/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	3
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	2
Pyrene	µg/L	<1	<1	<1	<1	2
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	8.5
Surrogate p-Terphenyl-d14	%	62	69	60	107	89

PAHs in Eluates			
Our Reference		162119-D-305	162119-D-306
Your Reference	UNITS	MW206 + 30% Cement WET T08	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date extracted	-	12/05/2017	29/05/2017
Date analysed	-	15/05/2017	30/05/2017
Naphthalene	µg/L	<1	<1
Acenaphthylene	µg/L	<1	<1
Acenaphthene	µg/L	<1	<1
Fluorene	µg/L	<1	<1
Phenanthrene	µg/L	<1	<1
Anthracene	µg/L	<1	<1
Fluoranthene	µg/L	<1	<1
Pyrene	µg/L	<1	<1
Benzo(a)anthracene	µg/L	<1	<1
Chrysene	µg/L	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2
Benzo(a)pyrene	µg/L	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	109	80

SW846-1315 LEAF Monolith						
Our Reference		162119-D-1	162119-D-2	162119-D-3	162119-D-4	162119-D-5
Your Reference	UNITS	MW201_>125 T01	MW201_>125 T02	MW201_>125 T03	MW201_>125 T04	MW201_>125 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	388.4	388.3	388.6	389.7	390.6
Mass of Sample before Elutriation Step	g	388.3	388.6	389.7	390.6	390.7
Geometry and Dimensions 3D or 1D	mm D x mm H	289cm2 Surface Area	289cm2 Surface Area	289cm2 Surface Area	289cm2 Surface Area	289cm2 Surface Area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,600	2,600	2,600	2,600	2,600
Elutriate Exchange Time/Day	--	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017
Elutriate Final EC	µS/cm	910	240	190	380	390
Elutriate Final pH	pH units	9.0	8.8	9.1	8.9	7.8
Total Cyanide in Eluates	mg/L	1.2	0.24	0.18	0.72	0.74
Fluoride, F in Eluates	mg/L	67	41	30	52	56

SW846-1315 LEAF Monolith						
Our Reference		162119-D-6	162119-D-7	162119-D-8	162119-D-9	162119-D-10
Your Reference	UNITS	MW201_>125 T06	MW201_>125 T07	MW201_>125 T08	MW201_>125 T09	MW202_>125 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	390.7	388.2	389.2	390.6	326.5
Mass of Sample before Elutriation Step	g	388.2	389.2	390.6	389.0	326.9
Geometry and Dimensions 3D or 1D	mm D x mm H	289cm2 Surface Area	289cm2 Surface Area	289cm2 Surface Area	289cm2 Surface Area	256cm2 Surface Area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,600	2,600	2,600	2,600	2,300
Elutriate Exchange Time/Day	--	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017
Elutriate Final EC	µS/cm	430	320	170	220	22
Elutriate Final pH	pH units	7.9	7.6	7.6	6.9	9.3
Total Cyanide in Eluates	mg/L	0.92	0.72	0.25	0.24	<0.004
Fluoride, F in Eluates	mg/L	55	52	27	35	1.7

SW846-1315 LEAF Monolith						
Our Reference		162119-D-11	162119-D-12	162119-D-13	162119-D-14	162119-D-15
Your Reference	UNITS	MW202_>125 T02	MW202_>125 T03	MW202_>125 T04	MW202_>125 T05	MW202_>125 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	326.9	327	327.2	327.8	328.8
Mass of Sample before Elutriation Step	g	327	327.2	327.8	328.8	328.1
Geometry and Dimensions 3D or 1D	mm D x mm H	256cm2 Surface Area	256cm2 Surface Area	256cm2 Surface Area	256cm2 Surface Area	256cm2 Surface Area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,300	2,300	2,300	2,300	2,300
Elutriate Exchange Time/Day	--	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017
Elutriate Final EC	µS/cm	14	9	10	13	23
Elutriate Final pH	pH units	9.8	9.1	8.8	6.6	6.7
Total Cyanide in Eluates	mg/L	<0.004	<0.004	0.005	0.004	<0.004
Fluoride, F in Eluates	mg/L	0.4	0.4	0.8	1.2	1.4

SW846-1315 LEAF Monolith						
Our Reference		162119-D-16	162119-D-17	162119-D-18	162119-D-19	162119-D-20
Your Reference	UNITS	MW202_>125 T07	MW202_>125 T08	MW202_>125 T09	MW203_>125 T01	MW203_>125 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	328.1	328.5	328.9	751	746.5
Mass of Sample before Elutriation Step	g	328.5	328.9	328.5	746.5	744.3
Geometry and Dimensions 3D or 1D	mm D x mm H	256cm2 Surface Area	256cm2 Surface Area	256cm2 Surface Area	289cm2 Surface Area	289cm2 Surface Area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,300	2,300	2,300	2,600	2,600
Elutriate Exchange Time/Day	--	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017
Elutriate Final EC	µS/cm	13	17	8	1,000	790
Elutriate Final pH	pH units	6.5	7.2	5.8	8.6	9.0
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	0.86	0.47
Fluoride, F in Eluates	mg/L	0.7	0.2	0.4	190	140

SW846-1315 LEAF Monolith						
Our Reference		162119-D-21	162119-D-22	162119-D-23	162119-D-24	162119-D-25
Your Reference	UNITS	MW203_>125 T03	MW203_>125 T04	MW203_>125 T05	MW203_>125 T06	MW203_>125 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	744.3	743.2	742.4	741	735.4
Mass of Sample before Elutriation Step	g	743.2	742.4	741	735.4	735.4
Geometry and Dimensions 3D or 1D	mm D x mm H	289cm2 Surface Area	289cm2 Surface Area	289cm2 Surface Area	289cm2 Surface Area	289cm2 Surface Area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,600	2,600	2,600	2,600	2,600
Elutriate Exchange Time/Day	--	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017
Elutriate Final EC	µS/cm	530	1,400	1,400	1,500	1,200
Elutriate Final pH	pH units	9.1	8.8	8.9	8.9	8.5
Total Cyanide in Eluates	mg/L	0.28	0.74	0.60	0.71	0.53
Fluoride, F in Eluates	mg/L	100	220	210	300	240

SW846-1315 LEAF Monolith						
Our Reference		162119-D-26	162119-D-27	162119-D-28	162119-D-29	162119-D-30
Your Reference	UNITS	MW203_>125 T08	MW203_>125 T09	MW204_>125 T01	MW204_>125 T02	MW204_>125 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	735.4	736.6	594	559.2	558.4
Mass of Sample before Elutriation Step	g	736.6	733.4	559.2	558.4	558.8
Geometry and Dimensions 3D or 1D	mm D x mm H	289cm2 Surface Area	289cm2 Surface Area	281cm2 Surface area	281cm2 Surface area	281cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,600	2,600	2,500	2,500	2,500
Elutriate Exchange Time/Day	--	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017
Elutriate Final EC	µS/cm	390	750	1,400	440	320
Elutriate Final pH	pH units	8.0	8.3	9.2	8.8	8.9
Total Cyanide in Eluates	mg/L	0.20	0.27	0.74	0.23	0.18
Fluoride, F in Eluates	mg/L	79	130	110	68	51

SW846-1315 LEAF Monolith						
Our Reference		162119-D-31	162119-D-32	162119-D-33	162119-D-34	162119-D-35
Your Reference	UNITS	MW204_>125 T04	MW204_>125 T05	MW204_>125 T06	MW204_>125 T07	MW204_>125 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	558.8	558.8	558.4	554.6	554.9
Mass of Sample before Elutriation Step	g	558.8	558.4	554.6	554.9	555.6
Geometry and Dimensions 3D or 1D	mm D x mm H	281cm2 Surface area	281cm2 Surface area	281cm2 Surface area	281cm2 Surface area	281cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,500	2,500	2,500	2,500	2,500
Elutriate Exchange Time/Day	--	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017
Elutriate Final EC	µS/cm	930	880	1,100	930	520
Elutriate Final pH	pH units	8.6	8.9	8.9	8.8	7.8
Total Cyanide in Eluates	mg/L	0.51	0.50	0.66	0.55	0.18
Fluoride, F in Eluates	mg/L	130	150	190	160	110

SW846-1315 LEAF Monolith						
Our Reference		162119-D-36	162119-D-37	162119-D-38	162119-D-39	162119-D-40
Your Reference	UNITS	MW204_>125 T09	MW205_>125 T01	MW205_>125 T02	MW205_>125 T03	MW205_>125 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	555.6	468.5	476.5	477.5	479.4
Mass of Sample before Elutriation Step	g	553.0	476.5	477.5	479.4	481.2
Geometry and Dimensions 3D or 1D	mm D x mm H	281cm2 Surface area	298cm2 Surafce area	298cm2 Surafce area	298cm2 Surafce area	298cm2 Surafce area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,500	2,700	2,700	2,700	2,700
Elutriate Exchange Time/Day	--	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017
Elutriate Final EC	µS/cm	960	630	200	180	460
Elutriate Final pH	pH units	8.0	9.0	8.9	9.1	9.2
Total Cyanide in Eluates	mg/L	0.26	2.2	0.85	0.96	2.9
Fluoride, F in Eluates	mg/L	170	49	24	13	17

SW846-1315 LEAF Monolith						
Our Reference		162119-D-41	162119-D-42	162119-D-43	162119-D-44	162119-D-45
Your Reference	UNITS	MW205_>125 T05	MW205_>125 T06	MW205_>125 T07	MW205_>125 T08	MW205_>125 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	481.2	482.2	477.2	479.5	480.5
Mass of Sample before Elutriation Step	g	482.2	477.2	479.5	480.5	477.9
Geometry and Dimensions 3D or 1D	mm D x mm H	298cm2 Surafce area	298cm2 Surafce area	298cm2 Surafce area	298cm2 Surafce area	298cm2 Surafce area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,700	2,700	2,700	2,700	2,700
Elutriate Exchange Time/Day	--	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017
Elutriate Final EC	µS/cm	290	150	54	25	26
Elutriate Final pH	pH units	9.9	9.4	8.0	6.8	7.6
Total Cyanide in Eluates	mg/L	2.0	1.2	0.32	0.038	0.018
Fluoride, F in Eluates	mg/L	11	5.6	3.0	1.2	1.5

SW846-1315 LEAF Monolith						
Our Reference		162119-D-46	162119-D-47	162119-D-48	162119-D-49	162119-D-50
Your Reference	UNITS	MW206_>125 T01	MW206_>125 T02	MW206_>125 T03	MW206_>125 T04	MW206_>125 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	510.6	512.2	511.2	511	510.5
Mass of Sample before Elutriation Step	g	512.2	511.2	511	510.5	509.7
Geometry and Dimensions 3D or 1D	mm D x mm H	272cm2 Surface area	272cm2 Surface area	272cm2 Surface area	272cm2 Surface area	272cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017
Elutriate Final EC	µS/cm	750	390	390	1,000	980
Elutriate Final pH	pH units	9.2	8.6	8.6	8.8	8.4
Total Cyanide in Eluates	mg/L	0.62	0.29	0.24	0.59	0.52
Fluoride, F in Eluates	mg/L	140	95	73	160	170

SW846-1315 LEAF Monolith						
Our Reference		162119-D-51	162119-D-52	162119-D-53	162119-D-54	162119-D-55
Your Reference	UNITS	MW206_>125 T06	MW206_>125 T07	MW206_>125 T08	MW206_>125 T09	SPL_First Cut_1 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Slab sample
Mass Used	g	509.1	505.1	506.3	506.8	6,688.4
Mass of Sample before Elutriation Step	g	505.1	506.3	506.8	504.1	6,687.2
Geometry and Dimensions 3D or 1D	mm D x mm H	272cm2 Surface area	272cm2 Surface area	272cm2 Surface area	272cm2 Surface area	240mm x 150mm x 60
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	10,700
Elutriate Exchange Time/Day	--	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017
Elutriate Final EC	µS/cm	1,200	910	450	750	2,600
Elutriate Final pH	pH units	8.5	8.2	7.5	7.8	10.0
Total Cyanide in Eluates	mg/L	0.67	0.48	0.18	0.21	0.032
Fluoride, F in Eluates	mg/L	230	190	95	140	300

SW846-1315 LEAF Monolith						
Our Reference		162119-D-56	162119-D-57	162119-D-58	162119-D-59	162119-D-60
Your Reference	UNITS	SPL_First Cut_1 T02	SPL_First Cut_1 T03	SPL_First Cut_1 T04	SPL_First Cut_1 T05	SPL_First Cut_1 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	6,687.2	6,686.1	6,695.1	6,699.7	6,694.6
Mass of Sample before Elutriation Step	g	6,686.1	6,695.1	6,699.7	6,694.6	6,685.0
Geometry and Dimensions 3D or 1D	mm D x mm H	240mm x 150mm x 60	240mm x 150mm x 60	240mm x 150mm x 60	240mm x 150mm x 60	240mm x 150mm x 60
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	10,700	10,700	10,700	10,700	10,700
Elutriate Exchange Time/Day	--	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017
Elutriate Final EC	µS/cm	1,600	620	940	860	1,100
Elutriate Final pH	pH units	9.7	8.6	10.0	10.2	10.2
Total Cyanide in Eluates	mg/L	0.021	0.019	0.062	0.055	0.082
Fluoride, F in Eluates	mg/L	260	80	55	26	26

SW846-1315 LEAF Monolith						
Our Reference		162119-D-61	162119-D-62	162119-D-63	162119-D-64	162119-D-65
Your Reference	UNITS	SPL_First Cut_1 T07	SPL_First Cut_1 T08	SPL_First Cut_1 T09	SPL_First Cut_2 T01	SPL_First Cut_2 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	6,685.0	6,680.7	6,694.2	4,553.2	4,554.3
Mass of Sample before Elutriation Step	g	6,680.7	6,694.2	6,692.3	4,554.3	4,551.8
Geometry and Dimensions 3D or 1D	mm D x mm H	240mm x 150mm x 60	240mm x 150mm x 60	240mm x 150mm x 60	250mm x 130mm x 50mm	250mm x 150mm x 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	10,700	10,700	10,700	9,300	9,300
Elutriate Exchange Time/Day	--	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017
Elutriate Final EC	µS/cm	960	450	780	240	180
Elutriate Final pH	pH units	10.2	10.0	10.1	8.6	8.1
Total Cyanide in Eluates	mg/L	0.076	0.031	0.054	0.056	0.027
Fluoride, F in Eluates	mg/L	26	13	20	29	26

SW846-1315 LEAF Monolith						
Our Reference		162119-D-66	162119-D-67	162119-D-68	162119-D-69	162119-D-70
Your Reference	UNITS	SPL_First Cut_2 T03	SPL_First Cut_2 T04	SPL_First Cut_2 T05	SPL_First Cut_2 T06	SPL_First Cut_2 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	4,551.8	4,559	4,562.1	4,558.5	4,551.6
Mass of Sample before Elutriation Step	g	4,559	4,562.1	4,558.5	4,551.6	4,550.1
Geometry and Dimensions 3D or 1D	mm D x mm H	250mm x 130mm x 50mm	250mm x 130mm x 50mm	250mm x 130 x 50mm	250mm x 130 x 50mm	250mm x 130mm x 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	9,300	9,300	9,300	9,300	9,300
Elutriate Exchange Time/Day	--	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017
Elutriate Final EC	µS/cm	170	410	400	500	370
Elutriate Final pH	pH units	7.9	7.9	7.2	7.2	7.1
Total Cyanide in Eluates	mg/L	<0.004	0.016	0.006	<0.004	<0.004
Fluoride, F in Eluates	mg/L	23	43	54	67	53

SW846-1315 LEAF Monolith						
Our Reference		162119-D-71	162119-D-72	162119-D-73	162119-D-74	162119-D-75
Your Reference	UNITS	SPL_First Cut_2 T08	SPL_First Cut_2 T09	SPL_First Cut_3 T01	SPL_First Cut_3 T02	SPL_First Cut_3 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	4,550.1	4,559.4	6,765.7	6,765.2	67.63.1
Mass of Sample before Elutriation Step	g	4,559.4	4,548.9	6,765.2	67.63.1	6,744.6
Geometry and Dimensions 3D or 1D	mm D x mm H	250mm x 130mm x 50mm	250mm x 130mm x 50mm	250mm x 150mm x 70mm	250mm x 150 x 70mm	250mm x 150mm x 70mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	9,300	9,300	11,800	11,800	11,800
Elutriate Exchange Time/Day	--	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017
Elutriate Final EC	µS/cm	280	380	6,500	3,900	3,600
Elutriate Final pH	pH units	7.0	6.9	11.2	11.8	11.8
Total Cyanide in Eluates	mg/L	<0.004	<0.004	32	23	24
Fluoride, F in Eluates	mg/L	57	72	110	35	18

SW846-1315 LEAF Monolith						
Our Reference		162119-D-76	162119-D-77	162119-D-78	162119-D-79	162119-D-80
Your Reference	UNITS	SPL_First Cut_3 T04	SPL_First Cut_3 T05	SPL_First Cut_3 T06	SPL_First Cut_3 T07	SPL_First Cut_3 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	6,744.6	6,713.2	6,682.1	6,640.6	6,605.6
Mass of Sample before Elutriation Step	g	6,713.2	6,682.1	6,640.6	6,605.6	6,597.9
Geometry and Dimensions 3D or 1D	mm D x mm H	250mm x 150mm x 70mm	250mm x 150mm x 70mm	250mm x 150mm x 70mm	250mm x 150mm x 70mm	250mm x 150mm x 70mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	11,800	11,800	11,800	11,800	11,800
Elutriate Exchange Time/Day	--	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017
Elutriate Final EC	µS/cm	7,100	5,600	5,600	4,200	2,200
Elutriate Final pH	pH units	11.9	11.7	11.7	11.6	11.7
Total Cyanide in Eluates	mg/L	77	80	78	64	19
Fluoride, F in Eluates	mg/L	42	43	34	28	15

SW846-1315 LEAF Monolith						
Our Reference		162119-D-81	162119-D-82	162119-D-83	162119-D-84	162119-D-85
Your Reference	UNITS	SPL_First Cut_3 T09	SPL_First Cut_4 T01	SPL_First Cut_4 T02	SPL_First Cut_4 T03	SPL_First Cut_4 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	6,597.9	3,669.7	3,669.1	3,668.6	3,673.5
Mass of Sample before Elutriation Step	g	6,579.7	3,669.1	3,668.6	3,673.5	3,676
Geometry and Dimensions 3D or 1D	mm D x mm H	250mm x 150mm x 70mm	250mm x 110mm x 60mm	250mm x 110 x 60mm	250mm x 110mm x 60mm	250mm x 110mm x 60mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	11,800	8,800	8,800	8,800	8,800
Elutriate Exchange Time/Day	--	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017
Elutriate Final EC	µS/cm	3,700	610	460	410	1,000
Elutriate Final pH	pH units	11.8	9.5	9.2	9.6	9.1
Total Cyanide in Eluates	mg/L	36	0.37	0.31	0.27	0.41
Fluoride, F in Eluates	mg/L	26	70	50	35	69

SW846-1315 LEAF Monolith						
Our Reference		162119-D-86	162119-D-87	162119-D-88	162119-D-89	162119-D-90
Your Reference	UNITS	SPL_First Cut_4 T05	SPL_First Cut_4 T06	SPL_First Cut_4 T07	SPL_First Cut_4 T08	SPL_First Cut_4 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	3,676	3,676.2	3,672.5	3,668.4	3,672.2
Mass of Sample before Elutriation Step	g	3,676.2	3,672.5	3,668.4	3,676.2	3,667.4
Geometry and Dimensions 3D or 1D	mm D x mm H	250mm x 110mm x 60mm	250mm x 110mm x 60mm	250mm x 110mm x 60mm	250mm x 110mm x 60mm	250mm x 110mm x 60mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	8,800	8,800	8,800	8,800	8,800
Elutriate Exchange Time/Day	--	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017
Elutriate Final EC	µS/cm	1,100	1,200	860	410	600
Elutriate Final pH	pH units	8.2	8.3	7.9	7.8	7.7
Total Cyanide in Eluates	mg/L	0.17	0.060	0.030	0.013	0.016
Fluoride, F in Eluates	mg/L	78	93	82	40	61

SW846-1315 LEAF Monolith						
Our Reference		162119-D-91	162119-D-92	162119-D-93	162119-D-94	162119-D-95
Your Reference	UNITS	SPL_First Cut_5 T01	SPL_First Cut_5 T02	SPL_First Cut_5 T03	SPL_First Cut_5 T04	SPL_First Cut_5 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	2,584.5	2,583.1	2,582.4	2,585.9	2,588.1
Mass of Sample before Elutriation Step	g	2,583.1	2,582.4	2,585.9	2,588.1	2,590
Geometry and Dimensions 3D or 1D	mm D x mm H	180mm x 120 x 65mm	180mm x 120 x 65mm	180mm x 120 x 65mm	180mm x 120 x 65mm	180mm x 120 x 65mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	7,400	7,400	7,400	7,400	7,400
Elutriate Exchange Time/Day	--	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017
Elutriate Final EC	µS/cm	130	130	110	280	280
Elutriate Final pH	pH units	8.8	8.1	8.1	[NT]	6.5
Total Cyanide in Eluates	mg/L	0.064	0.053	0.022	0.009	<0.004
Fluoride, F in Eluates	mg/L	13	8.1	3.7	4.2	3.3

SW846-1315 LEAF Monolith						
Our Reference		162119-D-96	162119-D-97	162119-D-98	162119-D-99	162119-D-100
Your Reference	UNITS	SPL_First Cut_5 T06	SPL_First Cut_5 T07	SPL_First Cut_5 T08	SPL_First Cut_5 T09	SPL_Second Cut_1 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	2,590	2,589.2	2,587.5	2,596.9	3,868.9
Mass of Sample before Elutriation Step	g	2,589.2	2,587.5	2,596.9	2,590.6	3,868.4
Geometry and Dimensions 3D or 1D	mm D x mm H	180mm x 120 x 65mm	180mm x 120 x 65mm	180mm x 120 x 65mm	180mm x 120 x 65mm	230mm x 150mm x 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	7,400	7,400	7,400	7,400	9,600
Elutriate Exchange Time/Day	--	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017
Elutriate Final EC	µS/cm	340	180	75	110	60
Elutriate Final pH	pH units	6.3	6.0	6.5	5.8	8.4
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	3.4	1.9	0.8	1.3	9.1

SW846-1315 LEAF Monolith						
Our Reference		162119-D-101	162119-D-102	162119-D-103	162119-D-104	162119-D-105
Your Reference	UNITS	SPL_Second Cut_1 T02	SPL_Second Cut_1 T03	SPL_Second Cut_1 T04	SPL_Second Cut_1 T05	SPL_Second Cut_1 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	3,868.4	3,867.1	3,875.6	3,881.1	3,885.1
Mass of Sample before Elutriation Step	g	3,867.1	3,875.6	3,881.1	3,885.1	3,883.8
Geometry and Dimensions 3D or 1D	mm D x mm H	230mm x 150mm x 50mm	230mm x 150mm x 50mm	230mm x 150mm x 50mm	230mm x 150mm x 50mm	230mm x 150mm x 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	9,600	9,600	9,600	9,600	9,600
Elutriate Exchange Time/Day	--	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017
Elutriate Final EC	µS/cm	18	13	20	20	23
Elutriate Final pH	pH units	8.3	8.6	8.6	6.8	7.1
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	2.3	0.9	1.5	1.5	1.3

SW846-1315 LEAF Monolith						
Our Reference		162119-D-106	162119-D-107	162119-D-108	162119-D-109	162119-D-110
Your Reference	UNITS	SPL_Second Cut_1 T07	SPL_Second Cut_1 T08	SPL_Second Cut_1 T09	SPL_Second Cut_2 T01	SPL_Second Cut_2 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	3,883.8	3,883.3	3,892.7	3,899.4	3,898.6
Mass of Sample before Elutriation Step	g	3,883.3	3,892.7	3,886.6	3,898.6	3,897.5
Geometry and Dimensions 3D or 1D	mm D x mm H	230mm x 150mm x 50mm	230mm x 150mm x 50mm	230mm x 150mm x 50mm	230mm x 140mmx 50mm	230mm x 140mmx 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	9,600	9,600	9,600	9,100	9,100
Elutriate Exchange Time/Day	--	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017
Elutriate Final EC	µS/cm	19	12	14	30	12
Elutriate Final pH	pH units	7.0	6.7	6.5	8.4	8.1
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.8	0.3	0.3	4.8	1.6

SW846-1315 LEAF Monolith						
Our Reference		162119-D-111	162119-D-112	162119-D-113	162119-D-114	162119-D-115
Your Reference	UNITS	SPL_Second Cut_2 T03	SPL_Second Cut_2 T04	SPL_Second Cut_2 T05	SPL_Second Cut_2 T06	SPL_Second Cut_2 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	3,897.5	3,906.2	3,913.7	3,918.8	3,916.7
Mass of Sample before Elutriation Step	g	3,906.2	3,913.7	3,918.8	3,916.7	3,917.5
Geometry and Dimensions 3D or 1D	mm D x mm H	230mm x 140mmx 50mm	230mm x 140mmx 50mm	230mm x 140mmx 50mm	230mm x 140mmx 50mm	230mm x 140mmx 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	9,100	9,100	9,100	9,100	9,100
Elutriate Exchange Time/Day	--	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017
Elutriate Final EC	µS/cm	8	15	16	20	14
Elutriate Final pH	pH units	8.3	8.4	6.8	6.9	6.7
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.7	1.4	1.6	1.6	1.1

SW846-1315 LEAF Monolith						
Our Reference		162119-D-116	162119-D-117	162119-D-118	162119-D-119	162119-D-120
Your Reference	UNITS	SPL_Second Cut_2 T08	SPL_Second Cut_2 T09	SPL_Second Cut_3 T01	SPL_Second Cut_3 T02	SPL_Second Cut_3 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	3,917.5	3,928.6	2,985.8	2,984.7	2,983.8
Mass of Sample before Elutriation Step	g	3,928.6	3,920.5	2,984.7	2,983.8	2,990.1
Geometry and Dimensions 3D or 1D	mm D x mm H	230mm x 140mmx 50mm	230mm x 140mmx 50mm	230mm x 120mm x 50mm	230mm x 120mm x 50mm	230mm x 120mm x 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	9,100	9,100	8,100	8,100	8,100
Elutriate Exchange Time/Day	--	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017
Elutriate Final EC	µS/cm	9	11	40	14	9
Elutriate Final pH	pH units	6.6	6.3	8.4	7.9	8.2
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.4	0.6	6.7	1.7	0.6

SW846-1315 LEAF Monolith						
Our Reference		162119-D-121	162119-D-122	162119-D-123	162119-D-124	162119-D-125
Your Reference	UNITS	SPL_Second Cut_3 T04	SPL_Second Cut_3 T05	SPL_Second Cut_3 T06	SPL_Second Cut_3 T07	SPL_Second Cut_3 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	2,990.1	2,995.8	3,000.5	2,996.5	2,998.7
Mass of Sample before Elutriation Step	g	2,995.8	3,000.5	2,996.5	2,998.7	3,006.0
Geometry and Dimensions 3D or 1D	mm D x mm H	230mm x x120mm x 50mm	230mm x 120mm x 50mm	230mm x 120mm x 50mm	230mm x 120mm x 50mm	230mm x 120mm x 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	8,100	8,100	8,100	8,100	8,100
Elutriate Exchange Time/Day	--	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017
Elutriate Final EC	µS/cm	17	16	17	14	9
Elutriate Final pH	pH units	8.8	6.7	6.6	6.8	6.6
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.9	0.8	0.6	0.4	0.2

SW846-1315 LEAF Monolith						
Our Reference		162119-D-126	162119-D-127	162119-D-128	162119-D-129	162119-D-130
Your Reference	UNITS	SPL_Second Cut_3 T09	SPL_Second Cut_4 T01	SPL_Second Cut_4 T02	SPL_Second Cut_4 T03	SPL_Second Cut_4 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	3,006.0	3,564.9	3,563.9	3,562.8	3,570.7
Mass of Sample before Elutriation Step	g	3,000.9	3,563.9	3,562.8	3,570.7	3,576.4
Geometry and Dimensions 3D or 1D	mm D x mm H	230mm x 120mm x 50mm	230mm x 140mm x 50mm	230mm x 140mm x 50mm	230mm x 140mm x 50mm	230mm x 140mm x 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	8,100	9,100	9,100	9,100	9,100
Elutriate Exchange Time/Day	--	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017
Elutriate Final EC	µS/cm	11	42	17	11	22
Elutriate Final pH	pH units	6.3	8.4	7.7	8.0	8.3
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.2	6.5	1.4	0.5	0.6

SW846-1315 LEAF Monolith						
Our Reference		162119-D-131	162119-D-132	162119-D-133	162119-D-134	162119-D-135
Your Reference	UNITS	SPL_Second Cut_4 T05	SPL_Second Cut_4 T06	SPL_Second Cut_4 T07	SPL_Second Cut_4 T08	SPL_Second Cut_4 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	3,576.4	3,581.7	3,354.8	3,357.2	3,366.6
Mass of Sample before Elutriation Step	g	3,581.7	3,354.8	3,357.2	3,366.6	3,359.8
Geometry and Dimensions 3D or 1D	mm D x mm H	230mm x 140mm x 50mm	230mm x 140mm x 50mm	230mm x 140mm x 50mm	230mm x 140mm x 50mm	230mm x 140mm x 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	9,100	9,100	9,100	9,100	9,100
Elutriate Exchange Time/Day	--	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017
Elutriate Final EC	µS/cm	19	16	14	10	11
Elutriate Final pH	pH units	6.7	6.7	6.9	6.6	6.4
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.5	1.2	0.8	0.3	0.3

SW846-1315 LEAF Monolith						
Our Reference		162119-D-136	162119-D-137	162119-D-138	162119-D-139	162119-D-140
Your Reference	UNITS	SPL_Second Cut_5 T01	SPL_Second Cut_5 T02	SPL_Second Cut_5 T03	SPL_Second Cut_5 T04	SPL_Second Cut_5 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Slab sample
Mass Used	g	3,343.5	3,341.5	3,340.5	3,347.2	3,354.8
Mass of Sample before Elutriation Step	g	3,341.5	3,340.5	3,347.2	3,354.8	3,358.7
Geometry and Dimensions 3D or 1D	mm D x mm H	230mm x 130mm x 50mm	230mm x 130mm x 50mm	230mm x 130mm x 50mm	230mm x 130mm x 50mm	230mm x 130mm x 50mm
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	8,600	8,600	8,600	8,600	8,600
Elutriate Exchange Time/Day	--	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017
Elutriate Final EC	µS/cm	62	15	10	19	17
Elutriate Final pH	pH units	8.1	7.7	8.0	8.4	6.7
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	0.004
Fluoride, F in Eluates	mg/L	10	2.3	0.9	1.6	1.2

SW846-1315 LEAF Monolith						
Our Reference		162119-D-141	162119-D-142	162119-D-143	162119-D-144	162119-D-145
Your Reference	UNITS	SPL_Second Cut_5 T06	SPL_Second Cut_5 T07	SPL_Second Cut_5 T08	SPL_Second Cut_5 T09	MW201 - 2nd sub-sample>125mm T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Slab sample	Slab sample	Slab sample	Slab sample	Rock Sample
Mass Used	g	3,358.7	3,576.9	3,580.2	3,590.0	400.8
Mass of Sample before Elutriation Step	g	3,576.9	3,580.2	3,590.0	3,581.9	400.8
Geometry and Dimensions 3D or 1D	mm D x mm H	230mm x 130mm x 50mm	230mm x 130mm x 50mm	230mm x 130mm x 50mm	230mm x 130mm x 50mm	298cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	8,600	8,600	8,600	8,600	2,700
Elutriate Exchange Time/Day	--	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017
Elutriate Final EC	µS/cm	18	14	10	10	310
Elutriate Final pH	pH units	6.4	6.7	6.5	6.1	7.8
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	0.94
Fluoride, F in Eluates	mg/L	0.5	0.3	0.1	0.2	36

SW846-1315 LEAF Monolith						
Our Reference		162119-D-146	162119-D-147	162119-D-148	162119-D-149	162119-D-150
Your Reference	UNITS	MW201 - 2nd sub-sample>125mm T02	MW201 - 2nd sub-sample>125mm T03	MW201 - 2nd sub-sample>125mm T04	MW201 - 2nd sub-sample>125mm T05	MW201 - 2nd sub-sample>125mm T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	400.8	401.6	402.2	403.1	402.9
Mass of Sample before Elutriation Step	g	401.6	402.2	403.1	402.9	400.5
Geometry and Dimensions 3D or 1D	mm D x mm H	298cm2 Surface area	298cm2 Surface area	298cm2 Surface area	298cm2 Surface area	298cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,700	2,700	2,700	2,700	2,700
Elutriate Exchange Time/Day	--	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017
Elutriate Final EC	µS/cm	220	190	400	370	470
Elutriate Final pH	pH units	7.7	7.8	7.8	7.5	7.6
Total Cyanide in Eluates	mg/L	0.75	0.53	1.2	1.0	1.4
Fluoride, F in Eluates	mg/L	39	36	59	71	88

SW846-1315 LEAF Monolith						
Our Reference		162119-D-151	162119-D-152	162119-D-153	162119-D-154	162119-D-155
Your Reference	UNITS	MW201 - 2nd sub-sample>125mm T07	MW201 - 2nd sub-sample>125mm T08	MW201 - 2nd sub-sample>125mm T09	MW202 - 2nd sub-sample>125mm T01	MW202 - 2nd sub-sample>125mm T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	400.5	400.7	401.7	340.7	341.1
Mass of Sample before Elutriation Step	g	400.7	401.7	400.0	341.1	341.1
Geometry and Dimensions 3D or 1D	mm D x mm H	298cm2 Surface area	298cm2 Surface area	298cm2 Surface area	272cm2 Surface area	272cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,700	2,700	2,700	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017
Elutriate Final EC	µS/cm	420	210	360	19	9
Elutriate Final pH	pH units	7.6	7.1	7.1	8.5	7.2
Total Cyanide in Eluates	mg/L	1.1	0.36	0.46	0.006	<0.004
Fluoride, F in Eluates	mg/L	85	49	71	1.9	0.6

SW846-1315 LEAF Monolith						
Our Reference		162119-D-156	162119-D-157	162119-D-158	162119-D-159	162119-D-160
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm T03	MW202 - 2nd sub-sample>125mm T04	MW202 - 2nd sub-sample>125mm T05	MW202 - 2nd sub-sample>125mm T06	MW202 - 2nd sub-sample>125mm T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	341.1	341.3	342.5	343.2	342.5
Mass of Sample before Elutriation Step	g	341.3	342.5	343.2	342.5	342.9
Geometry and Dimensions 3D or 1D	mm D x mm H	272cm2 Surface area	272cm2 Surface area	272cm2 Surface area	272cm2 Surface area	272cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017
Elutriate Final EC	µS/cm	8	9	12	15	14
Elutriate Final pH	pH units	7.4	7.7	6.3	6.2	6.4
Total Cyanide in Eluates	mg/L	<0.004	0.005	0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.4	0.8	1.0	1.8	1.2

SW846-1315 LEAF Monolith						
Our Reference		162119-D-161	162119-D-162	162119-D-163	162119-D-164	162119-D-165
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm T08	MW202 - 2nd sub-sample>125mm T09	MW203 - 2nd sub-sample>125mm T01	MW203 - 2nd sub-sample>125mm T02	MW203 - 2nd sub-sample>125mm T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	342.9	343.5	600.4	543.9	544.3
Mass of Sample before Elutriation Step	g	343.5	342.9	543.9	544.3	544.5
Geometry and Dimensions 3D or 1D	mm D x mm H	272cm2 Surface area	272cm2 Surface area	324cm2 Surface area	324cm2 Surface area	324cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,900	2,900	2,900
Elutriate Exchange Time/Day	--	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017
Elutriate Final EC	µS/cm	9	10	1,500	490	350
Elutriate Final pH	pH units	6.1	5.9	9.4	7.8	7.9
Total Cyanide in Eluates	mg/L	<0.004	<0.004	7.4	1.7	1.0
Fluoride, F in Eluates	mg/L	0.4	0.7	88	67	54

SW846-1315 LEAF Monolith						
Our Reference		162119-D-166	162119-D-167	162119-D-168	162119-D-169	162119-D-170
Your Reference	UNITS	MW203 - 2nd sub-sample>125mm T04	MW203 - 2nd sub-sample>125mm T05	MW203 - 2nd sub-sample>125mm T06	MW203 - 2nd sub-sample>125mm T07	MW203 - 2nd sub-sample>125mm T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	544.5	545.4	545.5	541.3	541.3
Mass of Sample before Elutriation Step	g	545.4	545.5	541.3	541.3	543.8
Geometry and Dimensions 3D or 1D	mm D x mm H	324cm2 Surface area	324cm2 Surface area	324cm2 Surface area	324cm2 Surface area	324cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,900	2,900	2,900	2,900	2,900
Elutriate Exchange Time/Day	--	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017
Elutriate Final EC	µS/cm	740	770	810	680	410
Elutriate Final pH	pH units	8.5	8.1	8.0	8.0	7.3
Total Cyanide in Eluates	mg/L	3.0	2.6	3.7	2.7	1.0
Fluoride, F in Eluates	mg/L	84	110	120	120	8.3

SW846-1315 LEAF Monolith						
Our Reference		162119-D-171	162119-D-172	162119-D-173	162119-D-174	162119-D-175
Your Reference	UNITS	MW203 - 2nd sub-sample>125mm T09	MW204 - 2nd sub-sample>125mm T01	MW204 - 2nd sub-sample>125mm T02	MW204 - 2nd sub-sample>125mm T03	MW204 - 2nd sub-sample>125mm T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	543.8	413.5	410.8	410.6	411.4
Mass of Sample before Elutriation Step	g	540.8	410.8	410.6	411.4	412.3
Geometry and Dimensions 3D or 1D	mm D x mm H	324cm2 Surface area	298cm2 Surface area	298cm2 Surface area	298cm2 Surface area	298cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,900	2,700	2,700	2,700	2,700
Elutriate Exchange Time/Day	--	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017
Elutriate Final EC	µS/cm	540	950	440	290	750
Elutriate Final pH	pH units	7.5	9.6	7.8	7.8	8.5
Total Cyanide in Eluates	mg/L	1.6	0.63	0.37	0.24	0.61
Fluoride, F in Eluates	mg/L	95	77	66	45	100

SW846-1315 LEAF Monolith						
Our Reference		162119-D-176	162119-D-177	162119-D-178	162119-D-179	162119-D-180
Your Reference	UNITS	MW204 - 2nd sub-sample>125mm T05	MW204 - 2nd sub-sample>125mm T06	MW204 - 2nd sub-sample>125mm T07	MW204 - 2nd sub-sample>125mm T08	MW204 - 2nd sub-sample>125mm T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	412.3	412.6	410.6	409.9	410.9
Mass of Sample before Elutriation Step	g	412.6	410.6	409.9	410.9	408.7
Geometry and Dimensions 3D or 1D	mm D x mm H	298cm2 Surface area	298cm2 Surface area	298cm2 Surface area	298cm2 Surface area	298cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,700	2,700	2,700	2,700	2,700
Elutriate Exchange Time/Day	--	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017
Elutriate Final EC	µS/cm	760	940	940	400	690
Elutriate Final pH	pH units	8.3	8.5	8.4	7.5	8.2
Total Cyanide in Eluates	mg/L	0.60	0.75	0.85	0.30	0.45
Fluoride, F in Eluates	mg/L	130	160	170	7.3	110

SW846-1315 LEAF Monolith						
Our Reference		162119-D-181	162119-D-182	162119-D-183	162119-D-184	162119-D-185
Your Reference	UNITS	MW205 - 2nd sub-sample>125mm T01	MW205 - 2nd sub-sample>125mm T02	MW205 - 2nd sub-sample>125mm T03	MW205 - 2nd sub-sample>125mm T04	MW205 - 2nd sub-sample>125mm T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	281.6	282.2	281.6	281.8	281.1
Mass of Sample before Elutriation Step	g	282.2	281.6	281.8	281.1	280.0
Geometry and Dimensions 3D or 1D	mm D x mm H	264cm2 Surface area	264cm2 Surface area	264cm2 Surface area	264cm2 Surface area	264cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017
Elutriate Final EC	µS/cm	570	500	310	830	1,000
Elutriate Final pH	pH units	9.2	7.9	7.8	8.5	8.8
Total Cyanide in Eluates	mg/L	0.91	0.52	0.38	0.56	0.66
Fluoride, F in Eluates	mg/L	120	100	72	120	200

SW846-1315 LEAF Monolith						
Our Reference		162119-D-186	162119-D-187	162119-D-188	162119-D-189	162119-D-190
Your Reference	UNITS	MW205 - 2nd sub-sample>125mm T06	MW205 - 2nd sub-sample>125mm T07	MW205 - 2nd sub-sample>125mm T08	MW205 - 2nd sub-sample>125mm T09	MW206 - 2nd sub-sample>125mm T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	280.0	277.0	276.3	277.1	616.9
Mass of Sample before Elutriation Step	g	277.0	276.3	277.1	275.0	617.9
Geometry and Dimensions 3D or 1D	mm D x mm H	264cm2 Surface area	264cm2 Surface area	264cm2 Surface area	264cm2 Surface area	306cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,700
Elutriate Exchange Time/Day	--	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017
Elutriate Final EC	µS/cm	1,100	1,100	510	800	1,200
Elutriate Final pH	pH units	8.7	8.6	7.8	8.3	8.9
Total Cyanide in Eluates	mg/L	0.67	0.54	0.19	0.19	0.77
Fluoride, F in Eluates	mg/L	230	210	100	150	200

SW846-1315 LEAF Monolith						
Our Reference		162119-D-191	162119-D-192	162119-D-193	162119-D-194	162119-D-195
Your Reference	UNITS	MW206 - 2nd sub-sample>125mm T02	MW206 - 2nd sub-sample>125mm T03	MW206 - 2nd sub-sample>125mm T04	MW206 - 2nd sub-sample>125mm T05	MW206 - 2nd sub-sample>125mm T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Rock Sample	Rock Sample
Mass Used	g	617.9	617.5	617.5	617	615.6
Mass of Sample before Elutriation Step	g	617.5	617.5	617	615.6	610.6
Geometry and Dimensions 3D or 1D	mm D x mm H	306cm2 Surface area	306cm2 Surface area	306cm2 Surface area	306cm2 Surface area	306cm2 Surface area
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,700	2,700	2,700	2,700	2,700
Elutriate Exchange Time/Day	--	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017
Elutriate Final EC	µS/cm	810	630	1,500	1,700	1,900
Elutriate Final pH	pH units	8.0	7.9	8.7	8.8	8.9
Total Cyanide in Eluates	mg/L	0.47	0.31	0.83	0.76	0.96
Fluoride, F in Eluates	mg/L	170	130	340	340	370

SW846-1315 LEAF Monolith						
Our Reference		162119-D-196	162119-D-197	162119-D-198	162119-D-199	162119-D-200
Your Reference	UNITS	MW206 - 2nd sub-sample>125mm T07	MW206 - 2nd sub-sample>125mm T08	MW206 - 2nd sub-sample>125mm T09	MW201 + 50% Lime WET T01	MW201 + 50% Lime WET T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Rock Sample	Rock Sample	Rock Sample	Monolith	Monolith
Mass Used	g	610.6	609.1	609.7	532.4	547.9
Mass of Sample before Elutriation Step	g	609.1	609.7	606.6	547.9	547
Geometry and Dimensions 3D or 1D	mm D x mm H	306cm2 Surface area	306cm2 Surface area	306cm2 Surface area	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,700	2,700	2,700	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017
Elutriate Final EC	µS/cm	1,600	710	1,200	9,300	7,800
Elutriate Final pH	pH units	8.6	7.8	8.3	12.2	12.2
Total Cyanide in Eluates	mg/L	0.75	0.29	0.34	0.14	0.079
Fluoride, F in Eluates	mg/L	330	160	220	14	12

SW846-1315 LEAF Monolith						
Our Reference		162119-D-201	162119-D-202	162119-D-203	162119-D-204	162119-D-205
Your Reference	UNITS	MW201 + 50% Lime WET T03	MW201 + 50% Lime WET T04	MW201 + 50% Lime WET T05	MW201 + 50% Lime WET T06	MW201 + 50% Lime WET T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	547	547.6	547.1	548.4	543.9
Mass of Sample before Elutriation Step	g	547.6	547.1	548.4	543.9	543.7
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017
Elutriate Final EC	µS/cm	4,700	9,000	5,500	5,100	3,400
Elutriate Final pH	pH units	12.0	12.2	12.4	12.8	12.4
Total Cyanide in Eluates	mg/L	0.033	0.063	0.037	0.027	0.022
Fluoride, F in Eluates	mg/L	5.3	7.3	5.7	4.7	3.9

SW846-1315 LEAF Monolith						
Our Reference		162119-D-206	162119-D-207	162119-D-208	162119-D-209	162119-D-210
Your Reference	UNITS	MW201 + 50% Lime WET T08	MW201 + 50% Lime WET T09	MW202 + 50% Lime WET T01	MW202 + 50% Lime WET T02	MW202 + 50% Lime WET T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	543.7	544.6	533.8	547.3	542.9
Mass of Sample before Elutriation Step	g	544.6	540.4	547.3	542.9	542.7
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017
Elutriate Final EC	µS/cm	2,000	2,400	8,800	9,700	7,000
Elutriate Final pH	pH units	12.2	12.2	12.3	12.3	12.2
Total Cyanide in Eluates	mg/L	0.009	0.011	0.090	0.091	0.052
Fluoride, F in Eluates	mg/L	27	2.6	26	21	9.6

SW846-1315 LEAF Monolith						
Our Reference		162119-D-211	162119-D-212	162119-D-213	162119-D-214	162119-D-215
Your Reference	UNITS	MW202 + 50% Lime WET T04	MW202 + 50% Lime WET T05	MW202 + 50% Lime WET T06	MW202 + 50% Lime WET T07	MW202 + 50% Lime WET T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	542.7	540.8	543	538.6	538.8
Mass of Sample before Elutriation Step	g	540.8	543	538.6	538.8	540.4
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017
Elutriate Final EC	µS/cm	11,000	4,700	4,100	2,600	1,200
Elutriate Final pH	pH units	12.3	12.3	12.2	12.2	12.0
Total Cyanide in Eluates	mg/L	0.11	0.069	0.025	0.016	0.006
Fluoride, F in Eluates	mg/L	16	12	4.9	4.6	2.9

SW846-1315 LEAF Monolith						
Our Reference		162119-D-216	162119-D-217	162119-D-218	162119-D-219	162119-D-220
Your Reference	UNITS	MW202 + 50% Lime WET T09	MW203 + 50% Lime WET T01	MW203 + 50% Lime WET T02	MW203 + 50% Lime WET T03	MW203 + 50% Lime WET T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	540.4	555	566.4	562.1	561.5
Mass of Sample before Elutriation Step	g	537.4	566.4	562.1	561.5	558.4
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017
Elutriate Final EC	µS/cm	1,600	13,000	12,000	8,100	15,000
Elutriate Final pH	pH units	12.0	12.4	12.4	12.3	12.5
Total Cyanide in Eluates	mg/L	0.008	0.47	0.26	0.089	0.15
Fluoride, F in Eluates	mg/L	3.5	47	39	15	26

SW846-1315 LEAF Monolith						
Our Reference		162119-D-221	162119-D-222	162119-D-223	162119-D-224	162119-D-225
Your Reference	UNITS	MW203 + 50% Lime WET T05	MW203 + 50% Lime WET T06	MW203 + 50% Lime WET T07	MW203 + 50% Lime WET T08	MW203 + 50% Lime WET T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	558.4	558.5	553.3	552.9	554.4
Mass of Sample before Elutriation Step	g	558.5	553.3	552.9	554.4	550.8
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017
Elutriate Final EC	µS/cm	6,900	3,600	1,600	920	980
Elutriate Final pH	pH units	12.4	12.1	11.9	11.8	11.8
Total Cyanide in Eluates	mg/L	0.048	0.017	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	11	6.9	5.2	3.5	4.0

SW846-1315 LEAF Monolith						
Our Reference		162119-D-226	162119-D-227	162119-D-228	162119-D-229	162119-D-230
Your Reference	UNITS	MW204 + 50% Lime WET T01	MW204 + 50% Lime WET T02	MW204 + 50% Lime WET T03	MW204 + 50% Lime WET T04	MW204 + 50% Lime WET T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	526.9	538.8	534.8	534.2	530.3
Mass of Sample before Elutriation Step	g	538.8	534.8	534.2	530.3	530.2
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017
Elutriate Final EC	µS/cm	11,000	10,000	7,500	15,000	8,600
Elutriate Final pH	pH units	12.4	12.4	12.3	12.5	12.5
Total Cyanide in Eluates	mg/L	0.50	0.48	0.27	0.79	0.47
Fluoride, F in Eluates	mg/L	46	30	13	24	13

SW846-1315 LEAF Monolith						
Our Reference		162119-D-231	162119-D-232	162119-D-233	162119-D-234	162119-D-235
Your Reference	UNITS	MW204 + 50% Lime WET T06	MW204 + 50% Lime WET T07	MW204 + 50% Lime WET T08	MW204 + 50% Lime WET T09	MW205 + 50% Lime WET T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	530.2	526.3	527.2	529.2	501.6
Mass of Sample before Elutriation Step	g	526.3	527.2	529.2	526.0	530.6
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017
Elutriate Final EC	µS/cm	2,100	2,200	890	990	14,000
Elutriate Final pH	pH units	11.9	12.1	11.8	11.8	12.5
Total Cyanide in Eluates	mg/L	0.16	0.040	<0.004	0.011	0.62
Fluoride, F in Eluates	mg/L	8.0	5.3	3.3	3.7	60

SW846-1315 LEAF Monolith						
Our Reference		162119-D-236	162119-D-237	162119-D-238	162119-D-239	162119-D-240
Your Reference	UNITS	MW205 + 50% Lime WET T02	MW205 + 50% Lime WET T03	MW205 + 50% Lime WET T04	MW205 + 50% Lime WET T05	MW205 + 50% Lime WET T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	530.6	525.1	523.5	519.8	519.8
Mass of Sample before Elutriation Step	g	525.1	523.5	519.8	519.8	514.9
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017
Elutriate Final EC	µS/cm	13,000	8,900	13,000	4,800	3,300
Elutriate Final pH	pH units	12.5	12.3	12.4	12.3	12.1
Total Cyanide in Eluates	mg/L	0.34	0.13	0.28	0.089	0.025
Fluoride, F in Eluates	mg/L	44	20	27	13	5.3

SW846-1315 LEAF Monolith						
Our Reference		162119-D-241	162119-D-242	162119-D-243	162119-D-244	162119-D-245
Your Reference	UNITS	MW205 + 50% Lime WET T07	MW205 + 50% Lime WET T08	MW205 + 50% Lime WET T09	MW206 + 50% Lime WET T01	MW206 + 50% Lime WET T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	514.9	513.8	515.3	521.8	519.9
Mass of Sample before Elutriation Step	g	513.8	515.3	510.4	519.9	516.3
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017
Elutriate Final EC	µS/cm	1,200	760	720	8,900	8,400
Elutriate Final pH	pH units	11.8	11.7	11.7	12.4	12.4
Total Cyanide in Eluates	mg/L	0.015	0.008	0.007	0.13	0.057
Fluoride, F in Eluates	mg/L	4.7	3.5	3.7	24	19

SW846-1315 LEAF Monolith						
Our Reference		162119-D-246	162119-D-247	162119-D-248	162119-D-249	162119-D-250
Your Reference	UNITS	MW206 + 50% Lime WET T03	MW206 + 50% Lime WET T04	MW206 + 50% Lime WET T05	MW206 + 50% Lime WET T06	MW206 + 50% Lime WET T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	516.3	515.7	513	513.5	508.8
Mass of Sample before Elutriation Step	g	515.7	513	513.5	508.8	510.0
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017
Elutriate Final EC	µS/cm	5,900	10,000	5,900	3,100	1,100
Elutriate Final pH	pH units	12.2	12.4	12.4	11.9	11.8
Total Cyanide in Eluates	mg/L	0.025	0.057	0.029	0.015	0.007
Fluoride, F in Eluates	mg/L	9.1	16	9.7	5.0	4.1

SW846-1315 LEAF Monolith						
Our Reference		162119-D-251	162119-D-252	162119-D-253	162119-D-254	162119-D-255
Your Reference	UNITS	MW206 + 50% Lime WET T08	MW206 + 50% Lime WET T09	MW201 + 30% Cement WET T01	MW201 + 30% Cement WET T02	MW201 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	510.0	511.7	521.8	537.9	535.9
Mass of Sample before Elutriation Step	g	511.7	507.6	537.9	535.9	535.3
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017
Elutriate Final EC	µS/cm	870	1,000	3,900	3,900	2,600
Elutriate Final pH	pH units	11.7	11.8	11.9	12.0	11.8
Total Cyanide in Eluates	mg/L	0.004	<0.004	1.6	1.7	1.1
Fluoride, F in Eluates	mg/L	3.1	2.9	130	110	75

SW846-1315 LEAF Monolith						
Our Reference		162119-D-256	162119-D-257	162119-D-258	162119-D-259	162119-D-260
Your Reference	UNITS	MW201 + 30% Cement WET T04	MW201 + 30% Cement WET T05	MW201 + 30% Cement WET T06	MW201 + 30% Cement WET T07	MW201 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	535.3	533.1	531.9	527.8	527.9
Mass of Sample before Elutriation Step	g	533.1	531.9	527.8	527.9	529.4
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017
Elutriate Final EC	µS/cm	4,900	5,100	4,700	2,200	810
Elutriate Final pH	pH units	12.1	12.1	12.3	11.9	11.5
Total Cyanide in Eluates	mg/L	2.5	1.6	0.89	0.24	0.028
Fluoride, F in Eluates	mg/L	130	66	38	33	12

SW846-1315 LEAF Monolith						
Our Reference		162119-D-261	162119-D-262	162119-D-263	162119-D-264	162119-D-265
Your Reference	UNITS	MW201 + 30% Cement WET T09	MW202 + 30% Cement WET T01	MW202 + 30% Cement WET T02	MW202 + 30% Cement WET T03	MW202 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	529.4	526	539.4	536.9	535.9
Mass of Sample before Elutriation Step	g	527.1	539.4	536.9	535.9	532.4
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017
Elutriate Final EC	µS/cm	590	3,200	3,500	2,500	6,400
Elutriate Final pH	pH units	11.1	11.3	11.6	11.3	11.9
Total Cyanide in Eluates	mg/L	0.029	1.4	1.6	1.1	2.0
Fluoride, F in Eluates	mg/L	14	100	120	110	230

SW846-1315 LEAF Monolith						
Our Reference		162119-D-266	162119-D-267	162119-D-268	162119-D-269	162119-D-270
Your Reference	UNITS	MW202 + 30% Cement WET T05	MW202 + 30% Cement WET T06	MW202 + 30% Cement WET T07	MW202 + 30% Cement WET T08	MW202 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	532.4	531.4	527	526.9	528.9
Mass of Sample before Elutriation Step	g	531.4	527	526.9	528.9	527.0
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017
Elutriate Final EC	µS/cm	5,400	4,600	2,900	1,200	930
Elutriate Final pH	pH units	12.1	12.1	12.0	11.7	11.2
Total Cyanide in Eluates	mg/L	1.6	1.0	0.33	0.058	0.049
Fluoride, F in Eluates	mg/L	220	160	86	26	37

SW846-1315 LEAF Monolith						
Our Reference		162119-D-271	162119-D-272	162119-D-273	162119-D-274	162119-D-275
Your Reference	UNITS	MW203+ 30% Cement WET T01	MW203+ 30% Cement WET T02	MW203+ 30% Cement WET T03	MW203+ 30% Cement WET T04	MW203+ 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	511.5	522.4	519.4	518.2	513.3
Mass of Sample before Elutriation Step	g	522.4	519.4	518.2	513.3	510.2
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 22/03/2017	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017
Elutriate Final EC	µS/cm	4,500	3,300	3,100	6,000	4,500
Elutriate Final pH	pH units	11.6	11.4	11.5	11.8	11.9
Total Cyanide in Eluates	mg/L	6.1	4.7	3.0	4.9	3.8
Fluoride, F in Eluates	mg/L	160	160	150	300	300

SW846-1315 LEAF Monolith						
Our Reference		162119-D-276	162119-D-277	162119-D-278	162119-D-279	162119-D-280
Your Reference	UNITS	MW203+ 30% Cement WET T06	MW203+ 30% Cement WET T07	MW203+ 30% Cement WET T08	MW203+ 30% Cement WET T09	MW204 + 30% Cement WET T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	510.2	504.0	503.4	507.9	524.1
Mass of Sample before Elutriation Step	g	504.0	503.4	504.9	501.4	536.2
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 19/04/2017	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017
Elutriate Final EC	µS/cm	4,100	2,200	1,300	1,500	5,600
Elutriate Final pH	pH units	11.9	10.7	11.6	11.7	11.6
Total Cyanide in Eluates	mg/L	1.8	0.47	0.092	0.080	4.3
Fluoride, F in Eluates	mg/L	270	140	55	55	120

SW846-1315 LEAF Monolith						
Our Reference		162119-D-281	162119-D-282	162119-D-283	162119-D-284	162119-D-285
Your Reference	UNITS	MW204 + 30% Cement WET T02	MW204 + 30% Cement WET T03	MW204 + 30% Cement WET T04	MW204 + 30% Cement WET T05	MW204 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	536.2	532	530.6	525.7	522.8
Mass of Sample before Elutriation Step	g	532	530.6	525.7	522.8	516.1
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 23/03/2017	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017
Elutriate Final EC	µS/cm	3,400	3,400	6,700	5,800	4,600
Elutriate Final pH	pH units	11.5	11.5	11.9	12.1	12.1
Total Cyanide in Eluates	mg/L	3.2	2.0	3.2	2.3	1.3
Fluoride, F in Eluates	mg/L	120	110	210	200	150

SW846-1315 LEAF Monolith						
Our Reference		162119-D-286	162119-D-287	162119-D-288	162119-D-298	162119-D-299
Your Reference	UNITS	MW204 + 30% Cement WET T07	MW204 + 30% Cement WET T08	MW204 + 30% Cement WET T09	MW206 + 30% Cement WET T01	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	516.1	515.8	517.7	514.7	533
Mass of Sample before Elutriation Step	g	515.8	517.7	514.8	533	530.4
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 03/05/2017	12:30am 11/05/2017	12:30am 24/05/2017	12:30am 22/03/2017	12:30am 23/03/2017
Elutriate Final EC	µS/cm	3,300	1,400	980	3,300	2,900
Elutriate Final pH	pH units	12.0	11.7	10.5	11.3	11.5
Total Cyanide in Eluates	mg/L	0.40	0.081	0.062	4.5	4.0
Fluoride, F in Eluates	mg/L	86	28	42	110	100

SW846-1315 LEAF Monolith						
Our Reference		162119-D-300	162119-D-301	162119-D-302	162119-D-303	162119-D-304
Your Reference	UNITS	MW206 + 30% Cement WET T03	MW206 + 30% Cement WET T04	MW206 + 30% Cement WET T05	MW206 + 30% Cement WET T06	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith	Monolith	Monolith	Monolith
Mass Used	g	530.4	530	526.1	522.9	517.4
Mass of Sample before Elutriation Step	g	530	526.1	522.9	517.4	516.9
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	DI Water	DI Water	DI Water	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400	2,400	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 24/03/2017	12:30am 29/03/2017	12:30am 05/04/2017	12:30am 19/04/2017	12:30am 03/05/2017
Elutriate Final EC	µS/cm	2,500	6,500	6,000	4,200	2,600
Elutriate Final pH	pH units	11.5	12.0	12.2	12.0	12.0
Total Cyanide in Eluates	mg/L	2.7	5.5	4.5	1.8	0.44
Fluoride, F in Eluates	mg/L	85	170	160	97	50

SW846-1315 LEAF Monolith			
Our Reference		162119-D-305	162119-D-306
Your Reference	UNITS	MW206 + 30% Cement WET T08	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Filtered	Monolith LEAF Eluate Filtered
Date prepared	-	22/03/2017	22/03/2017
Material Description	--	Monolith	Monolith
Mass Used	g	516.9	519.3
Mass of Sample before Elutriation Step	g	519.3	516.2
Geometry and Dimensions 3D or 1D	mm D x mm H	60mm D x 110mm H	60mm D x 110mm H
Moisture	%(w/w)	--	--
Elutriate Liquid Type	--	DI Water	DI Water
Elutriate Volume Used	mL	2,400	2,400
Elutriate Exchange Time/Day	--	12:30am 11/05/2017	12:30am 24/05/2017
Elutriate Final EC	µS/cm	1,200	1,200
Elutriate Final pH	pH units	11.7	11.7
Total Cyanide in Eluates	mg/L	0.11	0.079
Fluoride, F in Eluates	mg/L	21	23

Method ID	Methodology Summary
Inorg-014	Cyanide - free, total, weak acid dissociable by segmented flow analyser (in line dialysis with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-026	Fluoride determined by ion selective electrode (ISE) in accordance with APHA latest edition, 4500-F-C.
INORG-125	Leaching Environment Assessment Framework (LEAF) methods of leaching using USEPA methods SW846 1313, 1314, 1315 or 1316.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.

QUALITY CONTROL: PAHs in Eluates						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	162119-D-192
Date extracted	-			24/03/2017	93	05/04/2017	05/04/2017		24/03/2017	06/04/2017
Date analysed	-			24/03/2017	93	07/04/2017	07/04/2017		24/03/2017	07/04/2017
Naphthalene	µg/L	1	Org-012	<1	93	<1	<1	0	84	110
Acenaphthylene	µg/L	1	Org-012	<1	93	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	<1	93	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	<1	93	<1	<1	0	78	110
Phenanthrene	µg/L	1	Org-012	<1	93	<1	<1	0	84	110
Anthracene	µg/L	1	Org-012	<1	93	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	<1	93	<1	<1	0	78	110
Pyrene	µg/L	1	Org-012	<1	93	<1	<1	0	80	110
Benzo(a)anthracene	µg/L	1	Org-012	<1	93	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	<1	93	<1	<1	0	84	85
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	<2	93	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	<1	93	<1	<1	0	130	93
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	<1	93	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	<1	93	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	<1	93	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	88	93	80	80	0	86	82

QUALITY CONTROL: PAHs in Eluates						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	162119-D-12
Date extracted	-			[NT]	183	06/04/2017	06/04/2017		27/03/2017	05/04/2017
Date analysed	-			[NT]	183	07/04/2017	07/04/2017		27/03/2017	06/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	183	<1	<1	0	92	90
Acenaphthylene	µg/L	1	Org-012	[NT]	183	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	183	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	183	<1	<1	0	93	95
Phenanthrene	µg/L	1	Org-012	[NT]	183	<1	<1	0	110	88
Anthracene	µg/L	1	Org-012	[NT]	183	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	183	<1	<1	0	100	90
Pyrene	µg/L	1	Org-012	[NT]	183	<1	<1	0	100	93
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	183	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	183	<1	<1	0	100	92
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	183	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	183	<1	<1	0	100	110
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	183	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	183	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	183	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	183	72	74	3	87	102

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	162119-D-67
Date extracted	-			[NT]	3	05/04/2017	05/04/2017		05/04/2017	07/04/2017
Date analysed	-			[NT]	3	06/04/2017	06/04/2017		06/04/2017	07/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	3	<1	<1	0	84	84
Acenaphthylene	µg/L	1	Org-012	[NT]	3	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	3	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	3	<1	<1	0	92	85
Phenanthrene	µg/L	1	Org-012	[NT]	3	<1	<1	0	95	100
Anthracene	µg/L	1	Org-012	[NT]	3	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	3	<1	<1	0	97	97
Pyrene	µg/L	1	Org-012	[NT]	3	<1	<1	0	95	98
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	3	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	3	<1	<1	0	95	75
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	3	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	3	<1	<1	0	110	80
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	3	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	3	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	3	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	3	95	108	13	95	73

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	162119-D-256
Date extracted	-			[NT]	273	07/04/2017	07/04/2017		06/04/2017	07/04/2017
Date analysed	-			[NT]	273	07/04/2017	07/04/2017		07/04/2017	07/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	273	<1	<1	0	110	100
Acenaphthylene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	273	<1	<1	0	110	110
Phenanthrene	µg/L	1	Org-012	[NT]	273	<1	<1	0	130	110
Anthracene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	273	<1	<1	0	110	110
Pyrene	µg/L	1	Org-012	[NT]	273	<1	<1	0	110	100
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	273	<1	<1	0	100	83
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	273	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	273	<1	<1	0	100	86
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	273	69	72	4	84	78

QUALITY CONTROL: PAHs in Eluates						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	162119-D-194
Date extracted	-			[NT]	58	07/04/2017	07/04/2017		05/04/2017	11/04/2017
Date analysed	-			[NT]	58	07/04/2017	07/04/2017		06/04/2017	11/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	58	<1	<1	0	98	96
Acenaphthylene	µg/L	1	Org-012	[NT]	58	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	58	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	58	<1	<1	0	110	88
Phenanthrene	µg/L	1	Org-012	[NT]	58	<1	<1	0	110	87
Anthracene	µg/L	1	Org-012	[NT]	58	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	58	<1	<1	0	100	86
Pyrene	µg/L	1	Org-012	[NT]	58	<1	<1	0	110	82
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	58	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	58	<1	<1	0	100	80
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	58	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	58	<1	<1	0	120	85
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	58	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	58	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	58	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	58	83	86	4	101	102

QUALITY CONTROL: PAHs in Eluates						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	162119-D-15
Date extracted	-			[NT]	157	07/04/2017	07/04/2017		05/04/2017	24/04/2017
Date analysed	-			[NT]	157	07/04/2017	07/04/2017		06/04/2017	24/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	157	<1	<1	0	75	86
Acenaphthylene	µg/L	1	Org-012	[NT]	157	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	157	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	157	<1	<1	0	84	120
Phenanthrene	µg/L	1	Org-012	[NT]	157	<1	<1	0	85	120
Anthracene	µg/L	1	Org-012	[NT]	157	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	157	<1	<1	0	85	110
Pyrene	µg/L	1	Org-012	[NT]	157	<1	<1	0	80	100
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	157	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	157	<1	<1	0	78	100
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	157	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	157	<1	<1	0	86	110
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	157	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	157	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	157	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	157	88	73	19	101	77

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	162119-D-195
Date extracted	-			[NT]	247	07/04/2017	07/04/2017		05/04/2017	24/04/2017
Date analysed	-			[NT]	247	07/04/2017	07/04/2017		06/04/2017	24/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	247	<1	<1	0	75	84
Acenaphthylene	µg/L	1	Org-012	[NT]	247	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	247	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	247	<1	<1	0	86	88
Phenanthrene	µg/L	1	Org-012	[NT]	247	<1	<1	0	99	92
Anthracene	µg/L	1	Org-012	[NT]	247	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	247	<1	<1	0	95	84
Pyrene	µg/L	1	Org-012	[NT]	247	<1	<1	0	94	84
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	247	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	247	<1	<1	0	79	84
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	247	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	247	<1	<1	0	78	94
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	247	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	247	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	247	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	247	68	74	8	70	110

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	185	11/04/2017	11/04/2017		[NT]	[NT]
Date analysed	-			[NT]	185	11/04/2017	11/04/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	185	<1	1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	185	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	185	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	185	85	120	34	[NT]	[NT]

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	6	24/04/2017	24/04/2017		[NT]	[NT]
Date analysed	-			[NT]	6	24/04/2017	24/04/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	6	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	6	84	68	21	[NT]	[NT]

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	96	24/04/2017	24/04/2017		[NT]	[NT]
Date analysed	-			[NT]	96	24/04/2017	24/04/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	96	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	96	104	118	13	[NT]	[NT]

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	186	24/04/2017	24/04/2017		[NT]	[NT]
Date analysed	-			[NT]	186	24/04/2017	24/04/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	186	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	186	110	109	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	276	24/04/2017	24/04/2017		[NT]	[NT]
Date analysed	-			[NT]	276	24/04/2017	24/04/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	276	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	276	100	112	11	[NT]	[NT]

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	302	19/04/2017	19/04/2017		[NT]	[NT]
Date analysed	-			[NT]	302	19/04/2017	19/04/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	302	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	302	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	302	60	60	0	[NT]	[NT]

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	9	26/05/2017	26/05/2017		[NT]	[NT]
Date analysed	-			[NT]	9	29/05/2017	29/05/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	9	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	9	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	9	68	90	28	[NT]	[NT]

QUALITY CONTROL: PAHs in Eluates					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	99	26/05/2017	26/05/2017		[NT]	[NT]
Date analysed	-			[NT]	99	29/05/2017	29/05/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	99	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	99	101	119	16	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	162119-D-10
Date prepared	-			22/03/2017	1	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	<0.004	1	1.2	[NT]		100	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	<0.1	1	67	67	0	92	120

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	162119-D-100
Date prepared	-			[NT]	91	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	91	0.064	[NT]		100	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	91	13	13	0	90	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	162119-D-190
Date prepared	-			[NT]	181	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	181	0.91	[NT]		120	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	181	120	120	0	94	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	162119-D-280
Date prepared	-			[NT]	271	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	271	6.1	[NT]		110	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	271	160	160	0	98	95

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	162119-D-101
Date prepared	-			[NT]	2	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	2	0.24	[NT]		110	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	2	41	41	0	94	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	162119-D-191
Date prepared	-			[NT]	11	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	11	<0.004	[NT]		120	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	11	0.4	[NT]		97	110

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	162119-D-281
Date prepared	-			[NT]	92	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	92	0.053	[NT]		100	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	92	8.1	8.1	0	94	97

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W8	162119-D-192
Date prepared	-			[NT]	182	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	182	0.52	[NT]		98	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	182	100	100	0	99	110

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W9	162119-D-12
Date prepared	-			[NT]	272	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	272	4.7	[NT]		110	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	272	160	170	6	88	96

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W10	162119-D-13
Date prepared	-			[NT]	93	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	93	0.022	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	93	3.7	3.7	0	94	100

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W11	162119-D-102
Date prepared	-			[NT]	183	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	183	0.38	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	183	72	73	1	89	84

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W12	162119-D-103
Date prepared	-			[NT]	3	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	3	0.18	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	3	30	30	0	100	96

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	162119-D-193
Date prepared	-			[NT]	4	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	4	0.72	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	4	52	47	10	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W13	162119-D-282
Date prepared	-			[NT]	94	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	94	0.009	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	94	4.2	4.3	2	100	97

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W14	162119-D-283
Date prepared	-			[NT]	184	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	184	0.56	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	184	120	120	0	96	99

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W15	162119-D-194
Date prepared	-			[NT]	273	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	273	3.0	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	273	150	150	0	94	110

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W16	162119-D-14
Date prepared	-			[NT]	185	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	185	0.66	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	185	200	200	0	98	110

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W17	162119-D-104
Date prepared	-			[NT]	5	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	5	0.74	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	5	56	56	0	96	110

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	162119-D-284
Date prepared	-			[NT]	95	22/03/2017	22/03/2017		23/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	95	<0.004	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	95	3.3	3.0	10	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	162119-D-15
Date prepared	-			[NT]	275	22/03/2017	22/03/2017		24/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	275	3.8	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	275	300	300	0	[NT]	96

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	162119-D-105
Date prepared	-			[NT]	6	22/03/2017	22/03/2017		29/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	6	0.92	0.92	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	6	55	53	4	[NT]	99

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	162119-D-195
Date prepared	-			[NT]	96	22/03/2017	22/03/2017		05/04/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	96	<0.004	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	96	3.4	3.4	0	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	162119-D-285
Date prepared	-			[NT]	186	22/03/2017	22/03/2017		19/04/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	186	0.67	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	186	230	230	0	[NT]	98

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	162119-D-16
Date prepared	-			[NT]	276	22/03/2017	22/03/2017		03/05/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	276	1.8	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	276	270	260	4	[NT]	99

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	162119-D-106
Date prepared	-			[NT]	7	22/03/2017	[NT]		10/05/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	7	0.72	0.72	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	7	52	52	0	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	162119-D-196
Date prepared	-			[NT]	17	22/03/2017	22/03/2017		24/05/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	17	<0.004	<0.004	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	17	0.2	[NT]		[NT]	96

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-286
Date prepared	-			[NT]	187	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	187	0.54	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	187	210	210	0	[NT]	98

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-17
Date prepared	-			[NT]	277	22/03/2017	[NT]		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	277	0.47	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	277	140	140	0	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-107
Date prepared	-			[NT]	97	22/03/2017	[NT]		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	97	<0.004	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	97	1.9	1.9	0	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-197
Date prepared	-			[NT]	8	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	8	0.25	0.26	4	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	8	27	28	4	[NT]	97

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-287
Date prepared	-			[NT]	53	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	53	0.18	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	53	95	97	2	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-210
Date prepared	-			[NT]	98	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	98	<0.004	[NT]		[NT]	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	98	0.8	0.8	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-26
Date prepared	-			[NT]	188	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	188	0.19	[NT]		[NT]	120
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	188	100	100	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-62
Date prepared	-			[NT]	278	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	278	0.092	[NT]		[NT]	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	278	55	55	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-61
Date prepared	-			[NT]	233	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	233	<0.004	[NT]		[NT]	120
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	233	3.3	3.4	3	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-25
Date prepared	-			[NT]	15	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	15	<0.004	<0.004	0	[NT]	120
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	15	1.4	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-60
Date prepared	-			[NT]	16	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	16	<0.004	<0.004	0	[NT]	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	16	0.7	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-24
Date prepared	-			[NT]	64	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	64	0.056	0.053	6	[NT]	92
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	64	29	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-18
Date prepared	-			[NT]	160	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	160	<0.004	<0.004	0	[NT]	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	160	1.2	[NT]		[NT]	97

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-108
Date prepared	-			[NT]	161	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	161	<0.004	<0.004	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	161	0.4	[NT]		[NT]	98

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-198
Date prepared	-			[NT]	170	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	170	1.0	1.1	10	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	170	8.3	[NT]		[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-288
Date prepared	-			[NT]	195	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	195	0.96	0.95	1	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	195	370	[NT]		[NT]	98

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-D-207
Date prepared	-			[NT]	9	22/03/2017	[NT]		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	9	0.24	0.26	8	[NT]	66
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	9	35	35	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	99	22/03/2017	[NT]		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	99	<0.004	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	99	1.3	1.3	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	189	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	189	0.19	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	189	150	150	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	279	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	279	0.080	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	279	55	54	2	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	108	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	108	<0.004	<0.004	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	108	0.3	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	198	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	198	0.34	0.35	3	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	198	220	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	288	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	288	0.062	0.061	2	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	288	42	[NT]		[NT]	[NT]

Result Definitions

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

Quality Control Definitions

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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CERTIFICATE OF ANALYSIS 162119-E

Client Details

Client	Ramboll Environ Australia Pty Ltd
Attention	Fiona Robinson, Stephen Cadman
Address	PO Box 560, North Sydney, NSW, 2060

Sample Details

Your Reference	**Hydro Aluminium AS130515 Monoliths Unfiltered**
Number of Samples	Monolith LEAF testing
Date samples received	17/02/2017
Date completed instructions received	17/02/2017

Analysis Details

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

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

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

Report Details

Date results requested by	02/06/2017
Date of Issue	08/06/2017

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Report Comments

Note, Organics are not recommended in USEPA 1315, however, there is
a modified USEPA method i.e. 1315M that is being used in the US but is yet
to be finally approved.

Results Approved By
Simon Mills, Group R&D Manager

Authorised By



David Springer, General Manager

PAHs in Water						
Our Reference		162119-E-1	162119-E-2	162119-E-3	162119-E-4	162119-E-5
Your Reference	UNITS	MW201_>125 T01	MW201_>125 T02	MW201_>125 T03	MW201_>125 T04	MW201_>125 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	28/03/2017	31/03/2017	05/04/2017	11/04/2017	11/04/2017
Date analysed	-	28/03/2017	01/04/2017	06/04/2017	11/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	8	2	1	<1	<1
Anthracene	µg/L	1	<1	<1	<1	<1
Fluoranthene	µg/L	21	3	1	<1	<1
Pyrene	µg/L	21	3	1	<1	<1
Benzo(a)anthracene	µg/L	10	<1	<1	<1	<1
Chrysene	µg/L	21	2	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	20	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	7	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	10	<5	<5	<5	<5
Total +ve PAH's	µg/L	110	11	3.8	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	64	60	116	75	88

PAHs in Water						
Our Reference		162119-E-6	162119-E-7	162119-E-8	162119-E-9	162119-E-10
Your Reference	UNITS	MW201_>125 T06	MW201_>125 T07	MW201_>125 T08	MW201_>125 T09	MW202_>125 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	19/04/2017	5/05/2017	12/05/2017	26/05/2017	28/03/2017
Date analysed	-	19/04/2017	8/05/2017	15/05/2017	29/05/2017	28/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	79	113	107	85	77

PAHs in Water						
Our Reference		162119-E-11	162119-E-12	162119-E-13	162119-E-14	162119-E-15
Your Reference	UNITS	MW202_>125 T02	MW202_>125 T03	MW202_>125 T04	MW202_>125 T05	MW202_>125 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	31/03/2017	05/04/2017	07/04/2017	11/04/2017	19/04/2017
Date analysed	-	01/04/2017	06/04/2017	07/04/2017	11/04/2017	19/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	1	1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1	1	2	2	2
Pyrene	µg/L	<1	1	2	2	2
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1	2.2	3.6	4.4	5.2
Surrogate p-Terphenyl-d14	%	68	122	70	69	76

PAHs in Water						
Our Reference		162119-E-16	162119-E-17	162119-E-18	162119-E-19	162119-E-20
Your Reference	UNITS	MW202_>125 T07	MW202_>125 T08	MW202_>125 T09	MW203_>125 T01	MW203_>125 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	28/03/2017	31/03/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	28/03/2017	01/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	2	2	2	<1	<1
Pyrene	µg/L	1	1	2	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	2.9	3.0	4.7	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	115	109	99	84	63

PAHs in Water						
Our Reference		162119-E-21	162119-E-22	162119-E-23	162119-E-24	162119-E-25
Your Reference	UNITS	MW203_>125 T03	MW203_>125 T04	MW203_>125 T05	MW203_>125 T06	MW203_>125 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	07/04/2017	11/04/2017	19/04/2017	5/05/2017
Date analysed	-	06/04/2017	07/04/2017	11/04/2017	19/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	68	74	89	86	109

PAHs in Water						
Our Reference		162119-E-26	162119-E-27	162119-E-28	162119-E-29	162119-E-30
Your Reference	UNITS	MW203_>125 T08	MW203_>125 T09	MW204_>125 T01	MW204_>125 T02	MW204_>125 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	12/05/2017	26/05/2017	28/03/2017	31/03/2017	05/04/2017
Date analysed	-	15/05/2017	29/05/2017	28/03/2017	01/04/2017	06/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	2	3	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	3	<1	<1
Pyrene	µg/L	<1	<1	3	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	1	<1	<1
Chrysene	µg/L	<1	<1	2	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	3	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	1.7	19	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	97	87	89	66	85

PAHs in Water						
Our Reference		162119-E-31	162119-E-32	162119-E-33	162119-E-34	162119-E-35
Your Reference	UNITS	MW204_>125 T04	MW204_>125 T05	MW204_>125 T06	MW204_>125 T07	MW204_>125 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	07/04/2017	11/04/2017	19/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	11/04/2017	19/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	77	89	91	100	102

PAHs in Water						
Our Reference		162119-E-36	162119-E-37	162119-E-38	162119-E-39	162119-E-40
Your Reference	UNITS	MW204_>125 T09	MW205_>125 T01	MW205_>125 T02	MW205_>125 T03	MW205_>125 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	26/05/2017	28/03/2017	31/03/2017	05/04/2017	07/04/2017
Date analysed	-	29/05/2017	28/03/2017	01/04/2017	06/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	10	<1	<1	<1
Anthracene	µg/L	<1	3	<1	<1	<1
Fluoranthene	µg/L	<1	39	<1	<1	<1
Pyrene	µg/L	<1	36	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	41	<1	<1	<1
Chrysene	µg/L	<1	36	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	78	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	44	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	31	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	10	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	35	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	70	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	360	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	104	78	66	121	83

PAHs in Water						
Our Reference		162119-E-41	162119-E-42	162119-E-43	162119-E-44	162119-E-45
Your Reference	UNITS	MW205_>125 T05	MW205_>125 T06	MW205_>125 T07	MW205_>125 T08	MW205_>125 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	11/04/2017	19/04/2017	5/05/2017	12/05/2017	26/05/2017
Date analysed	-	11/04/2017	19/04/2017	8/05/2017	15/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	88	90	110	109	101

PAHs in Water						
Our Reference		162119-E-46	162119-E-47	162119-E-48	162119-E-49	162119-E-50
Your Reference	UNITS	MW206_>125 T01	MW206_>125 T02	MW206_>125 T03	MW206_>125 T04	MW206_>125 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	11/04/2017	31/03/2017	05/04/2017	07/04/2017	11/04/2017
Date analysed	-	11/04/2017	01/04/2017	06/04/2017	07/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	88	69	86	79	87

PAHs in Water						
Our Reference		162119-E-51	162119-E-52	162119-E-53	162119-E-54	162119-E-55
Your Reference	UNITS	MW206_>125 T06	MW206_>125 T07	MW206_>125 T08	MW206_>125 T09	SPL_First Cut_1 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	19/04/2017	5/05/2017	12/05/2017	26/05/2017	28/03/2017
Date analysed	-	19/04/2017	8/05/2017	15/05/2017	29/05/2017	28/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	60	131	112	110	83

PAHs in Water						
Our Reference		162119-E-56	162119-E-57	162119-E-58	162119-E-59	162119-E-60
Your Reference	UNITS	SPL_First Cut_1 T02	SPL_First Cut_1 T03	SPL_First Cut_1 T04	SPL_First Cut_1 T05	SPL_First Cut_1 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	31/03/2017	05/04/2017	07/04/2017	11/04/2017	19/04/2017
Date analysed	-	01/04/2017	06/04/2017	07/04/2017	11/04/2017	19/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	64	90	73	93	86

PAHs in Water						
Our Reference		162119-E-61	162119-E-62	162119-E-63	162119-E-64	162119-E-65
Your Reference	UNITS	SPL_First Cut_1 T07	SPL_First Cut_1 T08	SPL_First Cut_1 T09	SPL_First Cut_2 T01	SPL_First Cut_2 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	28/03/2017	31/03/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	28/03/2017	01/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	127	117	93	76	80

PAHs in Water						
Our Reference		162119-E-66	162119-E-67	162119-E-68	162119-E-69	162119-E-70
Your Reference	UNITS	SPL_First Cut_2 T03	SPL_First Cut_2 T04	SPL_First Cut_2 T05	SPL_First Cut_2 T06	SPL_First Cut_2 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	07/04/2017	11/04/2017	19/04/2017	5/05/2017
Date analysed	-	06/04/2017	07/04/2017	11/04/2017	19/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	110	77	88	75	118

PAHs in Water						
Our Reference		162119-E-71	162119-E-72	162119-E-73	162119-E-74	162119-E-75
Your Reference	UNITS	SPL_First Cut_2 T08	SPL_First Cut_2 T09	SPL_First Cut_3 T01	SPL_First Cut_3 T02	SPL_First Cut_3 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	12/05/2017	26/05/2017	28/03/2017	31/03/2017	05/04/2017
Date analysed	-	15/05/2017	29/05/2017	28/03/2017	01/04/2017	06/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	121	97	75	62	80

PAHs in Water						
Our Reference		162119-E-76	162119-E-77	162119-E-78	162119-E-79	162119-E-80
Your Reference	UNITS	SPL_First Cut_3 T04	SPL_First Cut_3 T05	SPL_First Cut_3 T06	SPL_First Cut_3 T07	SPL_First Cut_3 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	07/04/2017	11/04/2017	19/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	11/04/2017	19/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	101	88	93	123	114

PAHs in Water						
Our Reference		162119-E-81	162119-E-82	162119-E-83	162119-E-84	162119-E-85
Your Reference	UNITS	SPL_First Cut_3 T09	SPL_First Cut_4 T01	SPL_First Cut_4 T02	SPL_First Cut_4 T03	SPL_First Cut_4 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	26/05/2017	28/03/2017	31/03/2017	05/04/2017	07/04/2017
Date analysed	-	29/05/2017	28/03/2017	01/04/2017	06/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	80	79	94	104	100

PAHs in Water						
Our Reference		162119-E-86	162119-E-87	162119-E-88	162119-E-89	162119-E-90
Your Reference	UNITS	SPL_First Cut_4 T05	SPL_First Cut_4 T06	SPL_First Cut_4 T07	SPL_First Cut_4 T08	SPL_First Cut_4 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	11/04/2017	19/04/2017	5/05/2017	12/05/2017	26/05/2017
Date analysed	-	11/04/2017	19/04/2017	8/05/2017	15/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	83	96	112	116	95

PAHs in Water						
Our Reference		162119-E-91	162119-E-92	162119-E-93	162119-E-94	162119-E-95
Your Reference	UNITS	SPL_First Cut_5 T01	SPL_First Cut_5 T02	SPL_First Cut_5 T03	SPL_First Cut_5 T04	SPL_First Cut_5 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	28/03/2017	31/03/2017	05/04/2017	07/04/2017	11/04/2017
Date analysed	-	29/03/2017	01/04/2017	06/04/2017	07/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	71	66	90	85	73

PAHs in Water						
Our Reference		162119-E-96	162119-E-97	162119-E-98	162119-E-99	162119-E-100
Your Reference	UNITS	SPL_First Cut_5 T06	SPL_First Cut_5 T07	SPL_First Cut_5 T08	SPL_First Cut_5 T09	SPL_Second Cut_1 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	19/04/2017	5/05/2017	12/05/2017	26/05/2017	28/03/2017
Date analysed	-	19/04/2017	8/05/2017	15/05/2017	29/05/2017	29/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	93	93	103	92	85

PAHs in Water						
Our Reference		162119-E-101	162119-E-102	162119-E-103	162119-E-104	162119-E-105
Your Reference	UNITS	SPL_Second Cut_1 T02	SPL_Second Cut_1 T03	SPL_Second Cut_1 T04	SPL_Second Cut_1 T05	SPL_Second Cut_1 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	31/03/2017	05/04/2017	07/04/2017	11/04/2017	19/04/2017
Date analysed	-	01/04/2017	06/04/2017	07/04/2017	11/04/2017	19/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	73	78	80	79	94

PAHs in Water						
Our Reference		162119-E-106	162119-E-107	162119-E-108	162119-E-109	162119-E-110
Your Reference	UNITS	SPL_Second Cut_1 T07	SPL_Second Cut_1 T08	SPL_Second Cut_1 T09	SPL_Second Cut_2 T01	SPL_Second Cut_2 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	28/03/2017	05/04/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	29/03/2017	06/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	117	80	91	79	73

PAHs in Water						
Our Reference		162119-E-111	162119-E-112	162119-E-113	162119-E-114	162119-E-115
Your Reference	UNITS	SPL_Second Cut_2 T03	SPL_Second Cut_2 T04	SPL_Second Cut_2 T05	SPL_Second Cut_2 T06	SPL_Second Cut_2 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	07/04/2017	11/04/2017	19/04/2017	5/05/2017
Date analysed	-	06/04/2017	07/04/2017	11/04/2017	19/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	114	75	89	93	138

PAHs in Water						
Our Reference		162119-E-116	162119-E-117	162119-E-118	162119-E-119	162119-E-120
Your Reference	UNITS	SPL_Second Cut_2 T08	SPL_Second Cut_2 T09	SPL_Second Cut_3 T01	SPL_Second Cut_3 T02	SPL_Second Cut_3 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	12/05/2017	26/05/2017	28/03/2017	05/04/2017	05/04/2017
Date analysed	-	15/05/2017	29/05/2017	29/03/2017	06/04/2017	06/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	83	83	87	76	115

PAHs in Water						
Our Reference		162119-E-121	162119-E-122	162119-E-123	162119-E-124	162119-E-125
Your Reference	UNITS	SPL_Second Cut_3 T04	SPL_Second Cut_3 T05	SPL_Second Cut_3 T06	SPL_Second Cut_3 T07	SPL_Second Cut_3 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	07/04/2017	11/04/2017	19/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	11/04/2017	19/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	86	90	82	119	121

PAHs in Water						
Our Reference		162119-E-126	162119-E-127	162119-E-128	162119-E-129	162119-E-130
Your Reference	UNITS	SPL_Second Cut_3 T09	SPL_Second Cut_4 T01	SPL_Second Cut_4 T02	SPL_Second Cut_4 T03	SPL_Second Cut_4 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	26/05/2017	28/03/2017	05/04/2017	05/04/2017	07/04/2017
Date analysed	-	29/05/2017	29/03/2017	06/04/2017	06/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	98	72	69	98	79

PAHs in Water						
Our Reference		162119-E-131	162119-E-132	162119-E-133	162119-E-134	162119-E-135
Your Reference	UNITS	SPL_Second Cut_4 T05	SPL_Second Cut_4 T06	SPL_Second Cut_4 T07	SPL_Second Cut_4 T08	SPL_Second Cut_4 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	11/04/2017	19/04/2017	5/05/2017	12/05/2017	26/05/2017
Date analysed	-	11/04/2017	19/04/2017	8/05/2017	15/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	99	70	138	105	88

PAHs in Water						
Our Reference		162119-E-136	162119-E-137	162119-E-138	162119-E-139	162119-E-140
Your Reference	UNITS	SPL_Second Cut_5 T01	SPL_Second Cut_5 T02	SPL_Second Cut_5 T03	SPL_Second Cut_5 T04	SPL_Second Cut_5 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	28/03/2017	05/04/2017	05/04/2017	07/04/2017	11/04/2017
Date analysed	-	29/03/2017	06/04/2017	06/04/2017	07/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	93	72	84	62	78

PAHs in Water						
Our Reference		162119-E-141	162119-E-142	162119-E-143	162119-E-144	162119-E-145
Your Reference	UNITS	SPL_Second Cut_5 T06	SPL_Second Cut_5 T07	SPL_Second Cut_5 T08	SPL_Second Cut_5 T09	MW201 - 2nd sub-sample>125mm T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	20/04/2017	5/05/2017	12/05/2017	26/05/2017	28/03/2017
Date analysed	-	20/04/2017	8/05/2017	15/05/2017	29/05/2017	29/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	2	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	2.0	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	82	135	116	105	75

PAHs in Water						
Our Reference		162119-E-146	162119-E-147	162119-E-148	162119-E-149	162119-E-150
Your Reference	UNITS	MW201 - 2nd sub-sample>125mm T02	MW201 - 2nd sub-sample>125mm T03	MW201 - 2nd sub-sample>125mm T04	MW201 - 2nd sub-sample>125mm T05	MW201 - 2nd sub-sample>125mm T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	05/04/2017	07/04/2017	11/04/2017	20/04/2017
Date analysed	-	06/04/2017	06/04/2017	07/04/2017	11/04/2017	20/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	70	105	73	69	74

PAHs in Water						
Our Reference		162119-E-151	162119-E-152	162119-E-153	162119-E-154	162119-E-155
Your Reference	UNITS	MW201 - 2nd sub-sample>125mm T07	MW201 - 2nd sub-sample>125mm T08	MW201 - 2nd sub-sample>125mm T09	MW202 - 2nd sub-sample>125mm T01	MW202 - 2nd sub-sample>125mm T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	28/03/2017	05/04/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	29/03/2017	06/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	1
Pyrene	µg/L	<1	<1	<1	<1	1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	2.8
Surrogate p-Terphenyl-d14	%	114	118	111	77	64

PAHs in Water						
Our Reference		162119-E-156	162119-E-157	162119-E-158	162119-E-159	162119-E-160
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm T03	MW202 - 2nd sub-sample>125mm T04	MW202 - 2nd sub-sample>125mm T05	MW202 - 2nd sub-sample>125mm T06	MW202 - 2nd sub-sample>125mm T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	07/04/2017	11/04/2017	20/04/2017	5/05/2017
Date analysed	-	06/04/2017	07/04/2017	11/04/2017	20/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	1	2	1	1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1	2	3	2	2
Pyrene	µg/L	1	2	2	2	2
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	2.6	5.9	6.5	5.1	5.1
Surrogate p-Terphenyl-d14	%	100	75	75	73	103

PAHs in Water						
Our Reference		162119-E-161	162119-E-162	162119-E-163	162119-E-164	162119-E-165
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm T08	MW202 - 2nd sub-sample>125mm T09	MW203 - 2nd sub-sample>125mm T01	MW203 - 2nd sub-sample>125mm T02	MW203 - 2nd sub-sample>125mm T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	12/05/2017	26/05/2017	28/03/2017	05/04/2017	05/04/2017
Date analysed	-	15/05/2017	29/05/2017	29/03/2017	06/04/2017	06/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1	1	1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	2	2	1	<1	<1
Pyrene	µg/L	2	2	1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	5.7	4.9	3.8	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	111	92	74	73	105

PAHs in Water						
Our Reference		162119-E-166	162119-E-167	162119-E-168	162119-E-169	162119-E-170
Your Reference	UNITS	MW203 - 2nd sub-sample>125mm T04	MW203 - 2nd sub-sample>125mm T05	MW203 - 2nd sub-sample>125mm T06	MW203 - 2nd sub-sample>125mm T07	MW203 - 2nd sub-sample>125mm T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	07/04/2017	11/04/2017	20/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	11/04/2017	20/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	68	78	74	103	99

PAHs in Water						
Our Reference		162119-E-171	162119-E-172	162119-E-173	162119-E-174	162119-E-175
Your Reference	UNITS	MW203 - 2nd sub-sample>125mm T09	MW204 - 2nd sub-sample>125mm T01	MW204 - 2nd sub-sample>125mm T02	MW204 - 2nd sub-sample>125mm T03	MW204 - 2nd sub-sample>125mm T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	26/05/2017	28/03/2017	05/04/2017	05/04/2017	07/04/2017
Date analysed	-	29/05/2017	29/03/2017	06/04/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	61	94	78	112	77

PAHs in Water						
Our Reference		162119-E-176	162119-E-177	162119-E-178	162119-E-179	162119-E-180
Your Reference	UNITS	MW204 - 2nd sub-sample>125mm T05	MW204 - 2nd sub-sample>125mm T06	MW204 - 2nd sub-sample>125mm T07	MW204 - 2nd sub-sample>125mm T08	MW204 - 2nd sub-sample>125mm T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	11/04/2017	20/04/2017	5/05/2017	12/05/2017	26/05/2017
Date analysed	-	11/04/2017	20/04/2017	8/05/2017	15/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	77	66	60	125	72

PAHs in Water						
Our Reference		162119-E-181	162119-E-182	162119-E-183	162119-E-184	162119-E-185
Your Reference	UNITS	MW205 - 2nd sub-sample>125mm T01	MW205 - 2nd sub-sample>125mm T02	MW205 - 2nd sub-sample>125mm T03	MW205 - 2nd sub-sample>125mm T04	MW205 - 2nd sub-sample>125mm T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	28/03/2017	05/04/2017	05/04/2017	07/04/2017	11/04/2017
Date analysed	-	29/03/2017	06/04/2017	07/04/2017	07/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	65	107	117	77	74

PAHs in Water						
Our Reference		162119-E-186	162119-E-187	162119-E-188	162119-E-189	162119-E-190
Your Reference	UNITS	MW205 - 2nd sub-sample>125mm T06	MW205 - 2nd sub-sample>125mm T07	MW205 - 2nd sub-sample>125mm T08	MW205 - 2nd sub-sample>125mm T09	MW206 - 2nd sub-sample>125mm T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	20/04/2017	5/05/2017	12/05/2017	30/05/2017	28/03/2017
Date analysed	-	20/04/2017	8/05/2017	15/05/2017	31/05/2017	29/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	4	2
Pyrene	µg/L	<1	<1	<1	4	2
Benzo(a)anthracene	µg/L	<1	<1	<1	6	2
Chrysene	µg/L	<1	<1	<1	4	2
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	9	5
Benzo(a)pyrene	µg/L	<1	<1	<1	5	2
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	3	2
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	4	2
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	7	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	39	19
Surrogate p-Terphenyl-d14	%	71	114	97	106	88

PAHs in Water						
Our Reference		162119-E-191	162119-E-192	162119-E-193	162119-E-194	162119-E-195
Your Reference	UNITS	MW206 - 2nd sub-sample>125mm T02	MW206 - 2nd sub-sample>125mm T03	MW206 - 2nd sub-sample>125mm T04	MW206 - 2nd sub-sample>125mm T05	MW206 - 2nd sub-sample>125mm T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	05/04/2017	07/04/2017	11/04/2017	20/04/2017
Date analysed	-	06/04/2017	07/04/2017	07/04/2017	11/04/2017	20/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	109	96	75	78	81

PAHs in Water						
Our Reference		162119-E-196	162119-E-197	162119-E-198	162119-E-199	162119-E-200
Your Reference	UNITS	MW206 - 2nd sub-sample>125mm T07	MW206 - 2nd sub-sample>125mm T08	MW206 - 2nd sub-sample>125mm T09	MW201 + 50% Lime WET T01	MW201 + 50% Lime WET T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	28/03/2017	05/04/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	29/03/2017	06/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	116	70	69	80	117

PAHs in Water						
Our Reference		162119-E-201	162119-E-202	162119-E-203	162119-E-204	162119-E-205
Your Reference	UNITS	MW201 + 50% Lime WET T03	MW201 + 50% Lime WET T04	MW201 + 50% Lime WET T05	MW201 + 50% Lime WET T06	MW201 + 50% Lime WET T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	07/04/2017	11/04/2017	20/04/2017	5/05/2017
Date analysed	-	07/04/2017	07/04/2017	11/04/2017	20/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	118	76	79	71	103

PAHs in Water						
Our Reference		162119-E-206	162119-E-207	162119-E-208	162119-E-209	162119-E-210
Your Reference	UNITS	MW201 + 50% Lime WET T08	MW201 + 50% Lime WET T09	MW202 + 50% Lime WET T01	MW202 + 50% Lime WET T02	MW202 + 50% Lime WET T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	12/05/2017	26/05/2017	28/03/2017	05/04/2017	05/04/2017
Date analysed	-	15/05/2017	29/05/2017	29/03/2017	06/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	2	2	1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	1	3	2
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	2	3	3
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	1	2	2
Pyrene	µg/L	<1	<1	<1	2	1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	5.7	12	9.6
Surrogate p-Terphenyl-d14	%	116	90	85	102	70

PAHs in Water						
Our Reference		162119-E-211	162119-E-212	162119-E-213	162119-E-214	162119-E-215
Your Reference	UNITS	MW202 + 50% Lime WET T04	MW202 + 50% Lime WET T05	MW202 + 50% Lime WET T06	MW202 + 50% Lime WET T07	MW202 + 50% Lime WET T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	07/04/2017	11/04/2017	21/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	11/04/2017	21/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	4	4	12	3	8
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	4	4	9	3	6
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	4	4	5	2	4
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	2	2	2	<1	2
Pyrene	µg/L	2	2	2	<1	1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	15	16	31	8.6	21
Surrogate p-Terphenyl-d14	%	62	60	74	66	98

PAHs in Water						
Our Reference		162119-E-216	162119-E-217	162119-E-218	162119-E-219	162119-E-220
Your Reference	UNITS	MW202 + 50% Lime WET T09	MW203 + 50% Lime WET T01	MW203 + 50% Lime WET T02	MW203 + 50% Lime WET T03	MW203 + 50% Lime WET T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	26/05/2017	28/03/2017	05/04/2017	05/04/2017	07/04/2017
Date analysed	-	29/05/2017	29/03/2017	06/04/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	9	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	5	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	4	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	19	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	85	87	98	77	73

PAHs in Water						
Our Reference		162119-E-221	162119-E-222	162119-E-223	162119-E-224	162119-E-225
Your Reference	UNITS	MW203 + 50% Lime WET T05	MW203 + 50% Lime WET T06	MW203 + 50% Lime WET T07	MW203 + 50% Lime WET T08	MW203 + 50% Lime WET T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	11/04/2017	21/04/2017	5/05/2017	12/05/2017	26/05/2017
Date analysed	-	11/04/2017	21/04/2017	8/05/2017	15/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	65	119	115	85	85

PAHs in Water						
Our Reference		162119-E-226	162119-E-227	162119-E-228	162119-E-229	162119-E-230
Your Reference	UNITS	MW204 + 50% Lime WET T01	MW204 + 50% Lime WET T02	MW204 + 50% Lime WET T03	MW204 + 50% Lime WET T04	MW204 + 50% Lime WET T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	28/03/2017	05/04/2017	05/04/2017	07/04/2017	11/04/2017
Date analysed	-	29/03/2017	06/04/2017	07/04/2017	07/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	2
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	2
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	1	1	2	4
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	1
Pyrene	µg/L	<1	<1	<1	<1	1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	1.3	1.5	1.7	9.7
Surrogate p-Terphenyl-d14	%	84	95	102	122	70

PAHs in Water						
Our Reference		162119-E-231	162119-E-232	162119-E-233	162119-E-234	162119-E-235
Your Reference	UNITS	MW204 + 50% Lime WET T06	MW204 + 50% Lime WET T07	MW204 + 50% Lime WET T08	MW204 + 50% Lime WET T09	MW205 + 50% Lime WET T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	21/04/2017	5/05/2017	12/05/2017	26/05/2017	28/03/2017
Date analysed	-	21/04/2017	8/05/2017	15/05/2017	29/05/2017	29/03/2017
Naphthalene	µg/L	1	<1	1	1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	2	1	1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	2	2	2	1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	4.5	2.7	3.8	2.5	NIL (+)VE
Surrogate p-Terphenyl-d14	%	121	95	99	87	84

PAHs in Water						
Our Reference		162119-E-236	162119-E-237	162119-E-238	162119-E-239	162119-E-240
Your Reference	UNITS	MW205 + 50% Lime WET T02	MW205 + 50% Lime WET T03	MW205 + 50% Lime WET T04	MW205 + 50% Lime WET T05	MW205 + 50% Lime WET T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	05/04/2017	07/04/2017	11/04/2017	21/04/2017
Date analysed	-	06/04/2017	07/04/2017	07/04/2017	11/04/2017	21/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	1	<1	2	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	1	<1	1	<1
Pyrene	µg/L	<1	1	<1	1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	3.5	NIL (+)VE	4.2	NIL (+)VE
Surrogate p-Terphenyl-d14	%	90	104	99	77	108

PAHs in Water						
Our Reference		162119-E-241	162119-E-242	162119-E-243	162119-E-244	162119-E-245
Your Reference	UNITS	MW205 + 50% Lime WET T07	MW205 + 50% Lime WET T08	MW205 + 50% Lime WET T09	MW206 + 50% Lime WET T01	MW206 + 50% Lime WET T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	28/03/2017	05/04/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	29/03/2017	06/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1	<1	<1	1	2
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1	1	<1	1	2
Pyrene	µg/L	<1	<1	<1	<1	1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	2.1	1.1	NIL (+)VE	2.2	5.0
Surrogate p-Terphenyl-d14	%	123	98	85	80	98

PAHs in Water						
Our Reference		162119-E-246	162119-E-247	162119-E-248	162119-E-249	162119-E-250
Your Reference	UNITS	MW206 + 50% Lime WET T03	MW206 + 50% Lime WET T04	MW206 + 50% Lime WET T05	MW206 + 50% Lime WET T06	MW206 + 50% Lime WET T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	07/04/2017	11/04/2017	21/04/2017	5/05/2017
Date analysed	-	07/04/2017	07/04/2017	11/04/2017	21/04/2017	8/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	1	1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1	2	4	2	2
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	1	2	3	2	2
Pyrene	µg/L	<1	1	2	1	1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	2.6	5.0	11	6.3	5.7
Surrogate p-Terphenyl-d14	%	60	108	70	92	112

PAHs in Water						
Our Reference		162119-E-251	162119-E-252	162119-E-253	162119-E-254	162119-E-255
Your Reference	UNITS	MW206 + 50% Lime WET T08	MW206 + 50% Lime WET T09	MW201 + 30% Cement WET T01	MW201 + 30% Cement WET T02	MW201 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	12/05/2017	26/05/2017	28/03/2017	05/04/2017	05/04/2017
Date analysed	-	15/05/2017	29/05/2017	29/03/2017	06/04/2017	07/04/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	2	2	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	2	1	<1	<1	<1
Pyrene	µg/L	1	1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	5.3	4.8	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	105	98	90	125	66

PAHs in Water						
Our Reference		162119-E-256	162119-E-257	162119-E-258	162119-E-259	162119-E-260
Your Reference	UNITS	MW201 + 30% Cement WET T04	MW201 + 30% Cement WET T05	MW201 + 30% Cement WET T06	MW201 + 30% Cement WET T07	MW201 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	07/04/2017	11/04/2017	21/04/2017	5/05/2017	12/05/2017
Date analysed	-	07/04/2017	11/04/2017	21/04/2017	8/05/2017	15/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	109	75	124	77	103

PAHs in Water						
Our Reference		162119-E-261	162119-E-262	162119-E-263	162119-E-264	162119-E-265
Your Reference	UNITS	MW201 + 30% Cement WET T09	MW202 + 30% Cement WET T01	MW202 + 30% Cement WET T02	MW202 + 30% Cement WET T03	MW202 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	26/05/2017	28/03/2017	05/04/2017	05/04/2017	07/04/2017
Date analysed	-	29/05/2017	29/03/2017	06/04/2017	07/04/2017	07/04/2017
Naphthalene	µg/L	<1	3	2	2	7
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	2	3	3	6
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	2	4	4	4
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	2	2	2	2
Pyrene	µg/L	<1	1	2	2	2
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	9.8	12	13	20
Surrogate p-Terphenyl-d14	%	97	75	95	115	103

PAHs in Water						
Our Reference		162119-E-266	162119-E-267	162119-E-268	162119-E-269	162119-E-270
Your Reference	UNITS	MW202 + 30% Cement WET T05	MW202 + 30% Cement WET T06	MW202 + 30% Cement WET T07	MW202 + 30% Cement WET T08	MW202 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	11/04/2017	21/04/2017	5/05/2017	12/05/2017	26/05/2017
Date analysed	-	11/04/2017	21/04/2017	8/05/2017	15/05/2017	29/05/2017
Naphthalene	µg/L	12	5	11	7	7
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	9	6	6	5	3
Fluorene	µg/L	1	1	<1	<1	<1
Phenanthrene	µg/L	5	4	3	4	4
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	2	2	1	2	2
Pyrene	µg/L	2	1	1	1	1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	31	19	23	19	17
Surrogate p-Terphenyl-d14	%	110	93	98	82	109

PAHs in Water						
Our Reference		162119-E-271	162119-E-272	162119-E-273	162119-E-274	162119-E-275
Your Reference	UNITS	MW203+ 30% Cement WET T01	MW203+ 30% Cement WET T02	MW203+ 30% Cement WET T03	MW203+ 30% Cement WET T04	MW203+ 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	28/03/2017	05/04/2017	05/04/2017	07/04/2017	11/04/2017
Date analysed	-	29/03/2017	06/04/2017	07/04/2017	07/04/2017	11/04/2017
Naphthalene	µg/L	<1	<1	<1	1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	1.1	NIL (+)VE
Surrogate p-Terphenyl-d14	%	81	104	98	123	105

PAHs in Water						
Our Reference		162119-E-276	162119-E-277	162119-E-278	162119-E-279	162119-E-280
Your Reference	UNITS	MW203+ 30% Cement WET T06	MW203+ 30% Cement WET T07	MW203+ 30% Cement WET T08	MW203+ 30% Cement WET T09	MW204 + 30% Cement WET T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	21/04/2017	5/05/2017	12/05/2017	26/05/2017	28/03/2017
Date analysed	-	21/04/2017	8/05/2017	15/05/2017	29/05/2017	29/03/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	1
Surrogate p-Terphenyl-d14	%	124	108	87	97	87

PAHs in Water						
Our Reference		162119-E-281	162119-E-282	162119-E-283	162119-E-284	162119-E-285
Your Reference	UNITS	MW204 + 30% Cement WET T02	MW204 + 30% Cement WET T03	MW204 + 30% Cement WET T04	MW204 + 30% Cement WET T05	MW204 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	05/04/2017	05/04/2017	07/04/2017	11/04/2017	21/04/2017
Date analysed	-	06/04/2017	07/04/2017	07/04/2017	11/04/2017	21/04/2017
Naphthalene	µg/L	<1	<1	<1	1	2
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	2	2
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	1	1	1	2	2
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	1.3	1.2	1.4	6.7	6.4
Surrogate p-Terphenyl-d14	%	98	115	97	120	123

PAHs in Water						
Our Reference		162119-E-286	162119-E-287	162119-E-288	162119-E-298	162119-E-299
Your Reference	UNITS	MW204 + 30% Cement WET T07	MW204 + 30% Cement WET T08	MW204 + 30% Cement WET T09	MW206 + 30% Cement WET T01	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	5/05/2017	12/05/2017	26/05/2017	26/05/2017	26/05/2017
Date analysed	-	8/05/2017	15/05/2017	29/05/2017	29/05/2017	29/05/2017
Naphthalene	µg/L	1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	2	7	2	<1	2
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	4	<1	<1	2
Pyrene	µg/L	<1	2	<1	<1	1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	3.8	13	1.9	NIL (+)VE	5.2
Surrogate p-Terphenyl-d14	%	101	70	94	124	80

PAHs in Water						
Our Reference		162119-E-300	162119-E-301	162119-E-302	162119-E-303	162119-E-304
Your Reference	UNITS	MW206 + 30% Cement WET T03	MW206 + 30% Cement WET T04	MW206 + 30% Cement WET T05	MW206 + 30% Cement WET T06	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	26/05/2017	26/05/2017	26/05/2017	26/05/2017	26/05/2017
Date analysed	-	29/05/2017	29/05/2017	29/05/2017	29/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	1
Acenaphthene	µg/L	<1	<1	1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	3	2	3	2	3
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	3	2	3	1	2
Pyrene	µg/L	2	2	2	1	2
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	8.0	5.9	8.9	4.2	8.5
Surrogate p-Terphenyl-d14	%	108	100	112	100	98

PAHs in Water			
Our Reference		162119-E-305	162119-E-306
Your Reference	UNITS	MW206 + 30% Cement WET T08	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date extracted	-	12/05/2017	26/05/2017
Date analysed	-	15/05/2017	29/05/2017
Naphthalene	µg/L	<1	<1
Acenaphthylene	µg/L	<1	<1
Acenaphthene	µg/L	<1	<1
Fluorene	µg/L	<1	<1
Phenanthrene	µg/L	3	2
Anthracene	µg/L	<1	<1
Fluoranthene	µg/L	2	1
Pyrene	µg/L	2	1
Benzo(a)anthracene	µg/L	<1	<1
Chrysene	µg/L	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2
Benzo(a)pyrene	µg/L	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5
Total +ve PAH's	µg/L	7.1	4.5
Surrogate p-Terphenyl-d14	%	95	71

SW846-1315 LEAF Monolith						
Our Reference		162119-E-1	162119-E-2	162119-E-3	162119-E-4	162119-E-5
Your Reference	UNITS	MW201_>125 T01	MW201_>125 T02	MW201_>125 T03	MW201_>125 T04	MW201_>125 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	540	260	170	380	390
Elutriate Final pH	pH units	8.2	7.4	6.8	7.8	7.4
Total Cyanide in Eluates	mg/L	1.2	0.24	0.18	0.73	0.76
Fluoride, F in Eluates	mg/L	66	41	30	50	53

SW846-1315 LEAF Monolith						
Our Reference		162119-E-6	162119-E-7	162119-E-8	162119-E-9	162119-E-10
Your Reference	UNITS	MW201_>125 T06	MW201_>125 T07	MW201_>125 T08	MW201_>125 T09	MW202_>125 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	410	350	170	230	20
Elutriate Final pH	pH units	7.8	7.6	7.3	6.4	6.8
Total Cyanide in Eluates	mg/L	0.94	0.73	0.27	0.23	<0.004
Fluoride, F in Eluates	mg/L	54	53	28	35	1.7

SW846-1315 LEAF Monolith						
Our Reference		162119-E-11	162119-E-12	162119-E-13	162119-E-14	162119-E-15
Your Reference	UNITS	MW202_>125 T02	MW202_>125 T03	MW202_>125 T04	MW202_>125 T05	MW202_>125 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	13	6	13	13	17
Elutriate Final pH	pH units	6.5	5.9	6.5	6.3	6.5
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	0.007	<0.004
Fluoride, F in Eluates	mg/L	0.4	0.4	0.7	0.9	1.3

SW846-1315 LEAF Monolith						
Our Reference		162119-E-16	162119-E-17	162119-E-18	162119-E-19	162119-E-20
Your Reference	UNITS	MW202_>125 T07	MW202_>125 T08	MW202_>125 T09	MW203_>125 T01	MW203_>125 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	7	7	10	1,300	790
Elutriate Final pH	pH units	6.9	6.6	5.4	9.1	8.5
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	0.86	0.49
Fluoride, F in Eluates	mg/L	0.7	0.2	0.4	190	150

SW846-1315 LEAF Monolith						
Our Reference		162119-E-21	162119-E-22	162119-E-23	162119-E-24	162119-E-25
Your Reference	UNITS	MW203_>125 T03	MW203_>125 T04	MW203_>125 T05	MW203_>125 T06	MW203_>125 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	600	1,400	1,400	1,600	1,300
Elutriate Final pH	pH units	7.9	9.0	8.8	8.9	8.5
Total Cyanide in Eluates	mg/L	0.29	0.78	0.63	0.71	0.52
Fluoride, F in Eluates	mg/L	100	250	260	300	240

SW846-1315 LEAF Monolith						
Our Reference		162119-E-26	162119-E-27	162119-E-28	162119-E-29	162119-E-30
Your Reference	UNITS	MW203_>125 T08	MW203_>125 T09	MW204_>125 T01	MW204_>125 T02	MW204_>125 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	450	750	960	440	330
Elutriate Final pH	pH units	7.8	8.1	9.6	8.3	7.7
Total Cyanide in Eluates	mg/L	0.25	0.27	0.76	0.22	0.18
Fluoride, F in Eluates	mg/L	79	130	110	67	51

SW846-1315 LEAF Monolith						
Our Reference		162119-E-31	162119-E-32	162119-E-33	162119-E-34	162119-E-35
Your Reference	UNITS	MW204_>125 T04	MW204_>125 T05	MW204_>125 T06	MW204_>125 T07	MW204_>125 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	880	900	1,100	1,000	590
Elutriate Final pH	pH units	8.9	8.9	9.0	8.8	7.6
Total Cyanide in Eluates	mg/L	0.55	0.47	0.64	0.63	0.19
Fluoride, F in Eluates	mg/L	140	140	200	170	110

SW846-1315 LEAF Monolith						
Our Reference		162119-E-36	162119-E-37	162119-E-38	162119-E-39	162119-E-40
Your Reference	UNITS	MW204_>125 T09	MW205_>125 T01	MW205_>125 T02	MW205_>125 T03	MW205_>125 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	990	550	220	180	470
Elutriate Final pH	pH units	7.9	9.3	7.8	8.0	9.9
Total Cyanide in Eluates	mg/L	0.24	2.3	0.86	0.97	3.2
Fluoride, F in Eluates	mg/L	170	48	24	13	21

SW846-1315 LEAF Monolith						
Our Reference		162119-E-41	162119-E-42	162119-E-43	162119-E-44	162119-E-45
Your Reference	UNITS	MW205_>125 T05	MW205_>125 T06	MW205_>125 T07	MW205_>125 T08	MW205_>125 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	300	150	57	23	30
Elutriate Final pH	pH units	10.0	9.5	8.7	6.8	7.4
Total Cyanide in Eluates	mg/L	1.9	1.2	0.33	0.038	0.028
Fluoride, F in Eluates	mg/L	11	5.7	2.9	1.3	1.4

SW846-1315 LEAF Monolith						
Our Reference		162119-E-46	162119-E-47	162119-E-48	162119-E-49	162119-E-50
Your Reference	UNITS	MW206_>125 T01	MW206_>125 T02	MW206_>125 T03	MW206_>125 T04	MW206_>125 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	790	540	420	1,000	1,000
Elutriate Final pH	pH units	8.6	8.2	7.7	8.5	8.4
Total Cyanide in Eluates	mg/L	0.64	0.30	0.23	0.63	0.55
Fluoride, F in Eluates	mg/L	140	94	74	170	170

SW846-1315 LEAF Monolith						
Our Reference		162119-E-51	162119-E-52	162119-E-53	162119-E-54	162119-E-55
Your Reference	UNITS	MW206_>125 T06	MW206_>125 T07	MW206_>125 T08	MW206_>125 T09	SPL_First Cut_1 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,100	1,000	490	770	2,300
Elutriate Final pH	pH units	8.5	8.2	7.5	7.7	9.9
Total Cyanide in Eluates	mg/L	0.67	0.48	0.17	0.20	0.033
Fluoride, F in Eluates	mg/L	230	190	96	140	300

SW846-1315 LEAF Monolith						
Our Reference		162119-E-56	162119-E-57	162119-E-58	162119-E-59	162119-E-60
Your Reference	UNITS	SPL_First Cut_1 T02	SPL_First Cut_1 T03	SPL_First Cut_1 T04	SPL_First Cut_1 T05	SPL_First Cut_1 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,700	650	900	860	1,200
Elutriate Final pH	pH units	10.2	9.8	10.2	10.2	10.3
Total Cyanide in Eluates	mg/L	0.019	0.019	0.065	0.053	0.079
Fluoride, F in Eluates	mg/L	270	81	68	26	26

SW846-1315 LEAF Monolith						
Our Reference		162119-E-61	162119-E-62	162119-E-63	162119-E-64	162119-E-65
Your Reference	UNITS	SPL_First Cut_1 T07	SPL_First Cut_1 T08	SPL_First Cut_1 T09	SPL_First Cut_2 T01	SPL_First Cut_2 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,000	480	790	250	190
Elutriate Final pH	pH units	10.2	10.0	10.0	7.2	7.1
Total Cyanide in Eluates	mg/L	0.075	0.037	0.053	0.059	0.027
Fluoride, F in Eluates	mg/L	25	13	20	30	26

SW846-1315 LEAF Monolith						
Our Reference		162119-E-66	162119-E-67	162119-E-68	162119-E-69	162119-E-70
Your Reference	UNITS	SPL_First Cut_2 T03	SPL_First Cut_2 T04	SPL_First Cut_2 T05	SPL_First Cut_2 T06	SPL_First Cut_2 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	180	390	390	500	410
Elutriate Final pH	pH units	6.8	6.9	7.1	7.1	7.1
Total Cyanide in Eluates	mg/L	<0.004	0.015	0.007	<0.004	<0.004
Fluoride, F in Eluates	mg/L	23	48	53	78	52

SW846-1315 LEAF Monolith						
Our Reference		162119-E-71	162119-E-72	162119-E-73	162119-E-74	162119-E-75
Your Reference	UNITS	SPL_First Cut_2 T08	SPL_First Cut_2 T09	SPL_First Cut_3 T01	SPL_First Cut_3 T02	SPL_First Cut_3 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	300	390	6,700	4,100	3,600
Elutriate Final pH	pH units	7.0	6.9	11.4	12.1	12.0
Total Cyanide in Eluates	mg/L	<0.004	<0.004	33	24	23
Fluoride, F in Eluates	mg/L	58	70	110	35	18

SW846-1315 LEAF Monolith						
Our Reference		162119-E-76	162119-E-77	162119-E-78	162119-E-79	162119-E-80
Your Reference	UNITS	SPL_First Cut_3 T04	SPL_First Cut_3 T05	SPL_First Cut_3 T06	SPL_First Cut_3 T07	SPL_First Cut_3 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	6,900	5,900	6,600	4,900	2,000
Elutriate Final pH	pH units	12.0	11.7	11.9	11.7	11.5
Total Cyanide in Eluates	mg/L	80	79	77	62	20
Fluoride, F in Eluates	mg/L	47	39	34	29	15

SW846-1315 LEAF Monolith						
Our Reference		162119-E-81	162119-E-82	162119-E-83	162119-E-84	162119-E-85
Your Reference	UNITS	SPL_First Cut_3 T09	SPL_First Cut_4 T01	SPL_First Cut_4 T02	SPL_First Cut_4 T03	SPL_First Cut_4 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	3,800	140	490	440	1,000
Elutriate Final pH	pH units	11.8	6.5	8.3	7.6	8.2
Total Cyanide in Eluates	mg/L	36	0.38	0.30	0.27	0.42
Fluoride, F in Eluates	mg/L	27	70	49	34	77

SW846-1315 LEAF Monolith						
Our Reference		162119-E-86	162119-E-87	162119-E-88	162119-E-89	162119-E-90
Your Reference	UNITS	SPL_First Cut_4 T05	SPL_First Cut_4 T06	SPL_First Cut_4 T07	SPL_First Cut_4 T08	SPL_First Cut_4 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,100	1,200	960	430	630
Elutriate Final pH	pH units	8.3	8.3	8.0	7.6	7.8
Total Cyanide in Eluates	mg/L	0.15	0.060	0.030	0.013	0.017
Fluoride, F in Eluates	mg/L	80	92	84	40	59

SW846-1315 LEAF Monolith						
Our Reference		162119-E-91	162119-E-92	162119-E-93	162119-E-94	162119-E-95
Your Reference	UNITS	SPL_First Cut_5 T01	SPL_First Cut_5 T02	SPL_First Cut_5 T03	SPL_First Cut_5 T04	SPL_First Cut_5 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	120	120	130	270	280
Elutriate Final pH	pH units	6.2	6.4	6.6	6.6	6.4
Total Cyanide in Eluates	mg/L	0.067	0.054	0.021	0.008	<0.004
Fluoride, F in Eluates	mg/L	14	8.1	3.7	4.2	3.2

SW846-1315 LEAF Monolith						
Our Reference		162119-E-96	162119-E-97	162119-E-98	162119-E-99	162119-E-100
Your Reference	UNITS	SPL_First Cut_5 T06	SPL_First Cut_5 T07	SPL_First Cut_5 T08	SPL_First Cut_5 T09	SPL_Second Cut_1 T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	330	200	81	120	52
Elutriate Final pH	pH units	6.0	6.0	6.4	6.3	6.3
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	0.004
Fluoride, F in Eluates	mg/L	3.2	2.0	0.9	1.3	9.5

SW846-1315 LEAF Monolith						
Our Reference		162119-E-101	162119-E-102	162119-E-103	162119-E-104	162119-E-105
Your Reference	UNITS	SPL_Second Cut_1 T02	SPL_Second Cut_1 T03	SPL_Second Cut_1 T04	SPL_Second Cut_1 T05	SPL_Second Cut_1 T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	29	16	22	21	22
Elutriate Final pH	pH units	7.5	6.5	6.8	6.9	7.0
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	2.3	1	1.8	1.5	1.3

SW846-1315 LEAF Monolith						
Our Reference		162119-E-106	162119-E-107	162119-E-108	162119-E-109	162119-E-110
Your Reference	UNITS	SPL_Second Cut_1 T07	SPL_Second Cut_1 T08	SPL_Second Cut_1 T09	SPL_Second Cut_2 T01	SPL_Second Cut_2 T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	21	14	16	27	16
Elutriate Final pH	pH units	7.1	6.5	7.1	6.1	7.0
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.8	0.3	0.3	5.2	1.6

SW846-1315 LEAF Monolith						
Our Reference		162119-E-111	162119-E-112	162119-E-113	162119-E-114	162119-E-115
Your Reference	UNITS	SPL_Second Cut_2 T03	SPL_Second Cut_2 T04	SPL_Second Cut_2 T05	SPL_Second Cut_2 T06	SPL_Second Cut_2 T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	11	16	16	21	16
Elutriate Final pH	pH units	6.4	6.7	6.8	6.9	6.8
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.7	1.6	1.6	1.6	1.1

SW846-1315 LEAF Monolith						
Our Reference		162119-E-116	162119-E-117	162119-E-118	162119-E-119	162119-E-120
Your Reference	UNITS	SPL_Second Cut_2 T08	SPL_Second Cut_2 T09	SPL_Second Cut_3 T01	SPL_Second Cut_3 T02	SPL_Second Cut_3 T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	9	12	37	16	12
Elutriate Final pH	pH units	6.3	6.8	6.4	6.8	6.4
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.4	0.6	6.9	1.6	0.6

SW846-1315 LEAF Monolith						
Our Reference		162119-E-121	162119-E-122	162119-E-123	162119-E-124	162119-E-125
Your Reference	UNITS	SPL_Second Cut_3 T04	SPL_Second Cut_3 T05	SPL_Second Cut_3 T06	SPL_Second Cut_3 T07	SPL_Second Cut_3 T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	19	17	17	15	9
Elutriate Final pH	pH units	6.6	6.6	6.5	6.8	6.3
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	1.1	0.8	0.6	0.4	0.2

SW846-1315 LEAF Monolith						
Our Reference		162119-E-126	162119-E-127	162119-E-128	162119-E-129	162119-E-130
Your Reference	UNITS	SPL_Second Cut_3 T09	SPL_Second Cut_4 T01	SPL_Second Cut_4 T02	SPL_Second Cut_4 T03	SPL_Second Cut_4 T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	11	42	18	13	22
Elutriate Final pH	pH units	6.7	6.5	6.7	6.4	6.6
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.2	6.6	1.4	0.5	0.7

SW846-1315 LEAF Monolith						
Our Reference		162119-E-131	162119-E-132	162119-E-133	162119-E-134	162119-E-135
Your Reference	UNITS	SPL_Second Cut_4 T05	SPL_Second Cut_4 T06	SPL_Second Cut_4 T07	SPL_Second Cut_4 T08	SPL_Second Cut_4 T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	20	17	15	8	11
Elutriate Final pH	pH units	6.6	6.6	6.9	6.3	6.8
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.5	1.1	0.8	0.3	0.3

SW846-1315 LEAF Monolith						
Our Reference		162119-E-136	162119-E-137	162119-E-138	162119-E-139	162119-E-140
Your Reference	UNITS	SPL_Second Cut_5 T01	SPL_Second Cut_5 T02	SPL_Second Cut_5 T03	SPL_Second Cut_5 T04	SPL_Second Cut_5 T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	56	17	12	19	16
Elutriate Final pH	pH units	6.6	6.7	6.4	6.7	6.8
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	10	2.2	1	1.7	1.3

SW846-1315 LEAF Monolith						
Our Reference		162119-E-141	162119-E-142	162119-E-143	162119-E-144	162119-E-145
Your Reference	UNITS	SPL_Second Cut_5 T06	SPL_Second Cut_5 T07	SPL_Second Cut_5 T08	SPL_Second Cut_5 T09	MW201 - 2nd sub-sample>125mm T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	20	14	8	10	260
Elutriate Final pH	pH units	6.4	6.8	6.2	6.6	7.7
Total Cyanide in Eluates	mg/L	<0.004	<0.004	<0.004	<0.004	0.95
Fluoride, F in Eluates	mg/L	0.4	0.3	0.1	0.2	35

SW846-1315 LEAF Monolith						
Our Reference		162119-E-146	162119-E-147	162119-E-148	162119-E-149	162119-E-150
Your Reference	UNITS	MW201 - 2nd sub-sample>125mm T02	MW201 - 2nd sub-sample>125mm T03	MW201 - 2nd sub-sample>125mm T04	MW201 - 2nd sub-sample>125mm T05	MW201 - 2nd sub-sample>125mm T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	230	200	390	390	490
Elutriate Final pH	pH units	7.3	7.0	7.4	7.5	7.6
Total Cyanide in Eluates	mg/L	0.76	0.50	1.3	0.91	1.3
Fluoride, F in Eluates	mg/L	38	35	67	70	86

SW846-1315 LEAF Monolith						
Our Reference		162119-E-151	162119-E-152	162119-E-153	162119-E-154	162119-E-155
Your Reference	UNITS	MW201 - 2nd sub-sample>125mm T07	MW201 - 2nd sub-sample>125mm T08	MW201 - 2nd sub-sample>125mm T09	MW202 - 2nd sub-sample>125mm T01	MW202 - 2nd sub-sample>125mm T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	440	240	360	19	11
Elutriate Final pH	pH units	7.5	6.9	7.3	6.6	6.4
Total Cyanide in Eluates	mg/L	1.1	0.36	0.44	0.006	<0.004
Fluoride, F in Eluates	mg/L	85	49	72	2.0	0.6

SW846-1315 LEAF Monolith						
Our Reference		162119-E-156	162119-E-157	162119-E-158	162119-E-159	162119-E-160
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm T03	MW202 - 2nd sub-sample>125mm T04	MW202 - 2nd sub-sample>125mm T05	MW202 - 2nd sub-sample>125mm T06	MW202 - 2nd sub-sample>125mm T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	6	10	10	14	11
Elutriate Final pH	pH units	6.1	6.3	6.2	6.2	6.3
Total Cyanide in Eluates	mg/L	<0.004	0.004	<0.004	<0.004	<0.004
Fluoride, F in Eluates	mg/L	0.4	1	1	1.8	1.2

SW846-1315 LEAF Monolith						
Our Reference		162119-E-161	162119-E-162	162119-E-163	162119-E-164	162119-E-165
Your Reference	UNITS	MW202 - 2nd sub-sample>125mm T08	MW202 - 2nd sub-sample>125mm T09	MW203 - 2nd sub-sample>125mm T01	MW203 - 2nd sub-sample>125mm T02	MW203 - 2nd sub-sample>125mm T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	7	12	1,200	500	370
Elutriate Final pH	pH units	5.9	6.1	9.8	8.0	7.6
Total Cyanide in Eluates	mg/L	<0.004	0.004	7.8	1.7	1.1
Fluoride, F in Eluates	mg/L	0.4	0.8	88	64	56

SW846-1315 LEAF Monolith						
Our Reference		162119-E-166	162119-E-167	162119-E-168	162119-E-169	162119-E-170
Your Reference	UNITS	MW203 - 2nd sub-sample>125mm T04	MW203 - 2nd sub-sample>125mm T05	MW203 - 2nd sub-sample>125mm T06	MW203 - 2nd sub-sample>125mm T07	MW203 - 2nd sub-sample>125mm T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	730	800	820	710	460
Elutriate Final pH	pH units	8.0	8.0	8.0	7.9	7.2
Total Cyanide in Eluates	mg/L	3.2	2.9	3.6	2.7	1.0
Fluoride, F in Eluates	mg/L	96	110	120	120	82

SW846-1315 LEAF Monolith						
Our Reference		162119-E-171	162119-E-172	162119-E-173	162119-E-174	162119-E-175
Your Reference	UNITS	MW203 - 2nd sub-sample>125mm T09	MW204 - 2nd sub-sample>125mm T01	MW204 - 2nd sub-sample>125mm T02	MW204 - 2nd sub-sample>125mm T03	MW204 - 2nd sub-sample>125mm T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	500	660	450	310	770
Elutriate Final pH	pH units	6.8	9.5	8.0	7.7	8.5
Total Cyanide in Eluates	mg/L	1.6	0.63	0.37	0.24	0.61
Fluoride, F in Eluates	mg/L	96	77	64	45	120

SW846-1315 LEAF Monolith						
Our Reference		162119-E-176	162119-E-177	162119-E-178	162119-E-179	162119-E-180
Your Reference	UNITS	MW204 - 2nd sub-sample>125mm T05	MW204 - 2nd sub-sample>125mm T06	MW204 - 2nd sub-sample>125mm T07	MW204 - 2nd sub-sample>125mm T08	MW204 - 2nd sub-sample>125mm T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	800	930	1,000	440	680
Elutriate Final pH	pH units	8.4	8.5	8.4	7.5	7.4
Total Cyanide in Eluates	mg/L	0.60	0.85	0.85	0.32	0.45
Fluoride, F in Eluates	mg/L	120	160	180	75	110

SW846-1315 LEAF Monolith						
Our Reference		162119-E-181	162119-E-182	162119-E-183	162119-E-184	162119-E-185
Your Reference	UNITS	MW205 - 2nd sub-sample>125mm T01	MW205 - 2nd sub-sample>125mm T02	MW205 - 2nd sub-sample>125mm T03	MW205 - 2nd sub-sample>125mm T04	MW205 - 2nd sub-sample>125mm T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	830	580	440	1,200	1,100
Elutriate Final pH	pH units	9.7	8.4	8.3	9.1	8.8
Total Cyanide in Eluates	mg/L	0.90	0.52	0.37	0.56	0.69
Fluoride, F in Eluates	mg/L	120	98	72	110	200

SW846-1315 LEAF Monolith						
Our Reference		162119-E-186	162119-E-187	162119-E-188	162119-E-189	162119-E-190
Your Reference	UNITS	MW205 - 2nd sub-sample>125mm T06	MW205 - 2nd sub-sample>125mm T07	MW205 - 2nd sub-sample>125mm T08	MW205 - 2nd sub-sample>125mm T09	MW206 - 2nd sub-sample>125mm T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,300	1,100	560	750	1,100
Elutriate Final pH	pH units	8.9	8.6	7.8	7.7	9.3
Total Cyanide in Eluates	mg/L	0.66	0.55	0.19	0.19	0.78
Fluoride, F in Eluates	mg/L	240	210	110	150	190

SW846-1315 LEAF Monolith						
Our Reference		162119-E-191	162119-E-192	162119-E-193	162119-E-194	162119-E-195
Your Reference	UNITS	MW206 - 2nd sub-sample>125mm T02	MW206 - 2nd sub-sample>125mm T03	MW206 - 2nd sub-sample>125mm T04	MW206 - 2nd sub-sample>125mm T05	MW206 - 2nd sub-sample>125mm T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	910	710	1,700	1,800	2,100
Elutriate Final pH	pH units	8.6	8.1	8.9	8.9	9.0
Total Cyanide in Eluates	mg/L	0.47	0.30	0.90	0.79	0.93
Fluoride, F in Eluates	mg/L	160	130	330	340	400

SW846-1315 LEAF Monolith						
Our Reference		162119-E-196	162119-E-197	162119-E-198	162119-E-199	162119-E-200
Your Reference	UNITS	MW206 - 2nd sub-sample>125mm T07	MW206 - 2nd sub-sample>125mm T08	MW206 - 2nd sub-sample>125mm T09	MW201 + 50% Lime WET T01	MW201 + 50% Lime WET T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,700	820	1,100	8,000	8,900
Elutriate Final pH	pH units	8.6	7.8	7.8	12.5	12.6
Total Cyanide in Eluates	mg/L	0.75	0.28	0.33	0.14	0.085
Fluoride, F in Eluates	mg/L	330	150	220	15	12

SW846-1315 LEAF Monolith						
Our Reference		162119-E-201	162119-E-202	162119-E-203	162119-E-204	162119-E-205
Your Reference	UNITS	MW201 + 50% Lime WET T03	MW201 + 50% Lime WET T04	MW201 + 50% Lime WET T05	MW201 + 50% Lime WET T06	MW201 + 50% Lime WET T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	5,000	9,200	6,000	5,200	4,300
Elutriate Final pH	pH units	12.3	12.5	12.4	12.3	12.4
Total Cyanide in Eluates	mg/L	0.034	0.058	0.037	0.026	0.021
Fluoride, F in Eluates	mg/L	5.3	7.1	5.9	4.7	4.1

SW846-1315 LEAF Monolith						
Our Reference		162119-E-206	162119-E-207	162119-E-208	162119-E-209	162119-E-210
Your Reference	UNITS	MW201 + 50% Lime WET T08	MW201 + 50% Lime WET T09	MW202 + 50% Lime WET T01	MW202 + 50% Lime WET T02	MW202 + 50% Lime WET T03
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	2,300	2,400	9,900	12,000	7,300
Elutriate Final pH	pH units	12.2	12.2	12.6	12.7	12.4
Total Cyanide in Eluates	mg/L	0.010	0.011	0.092	0.093	0.053
Fluoride, F in Eluates	mg/L	2.7	2.6	25	21	9.7

SW846-1315 LEAF Monolith						
Our Reference		162119-E-211	162119-E-212	162119-E-213	162119-E-214	162119-E-215
Your Reference	UNITS	MW202 + 50% Lime WET T04	MW202 + 50% Lime WET T05	MW202 + 50% Lime WET T06	MW202 + 50% Lime WET T07	MW202 + 50% Lime WET T08
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	11,000	5,000	4,100	2,900	1,400
Elutriate Final pH	pH units	12.6	12.3	12.2	12.2	12.0
Total Cyanide in Eluates	mg/L	0.11	0.060	0.025	0.015	0.006
Fluoride, F in Eluates	mg/L	17	11	4.9	4.5	3.1

SW846-1315 LEAF Monolith						
Our Reference		162119-E-216	162119-E-217	162119-E-218	162119-E-219	162119-E-220
Your Reference	UNITS	MW202 + 50% Lime WET T09	MW203 + 50% Lime WET T01	MW203 + 50% Lime WET T02	MW203 + 50% Lime WET T03	MW203 + 50% Lime WET T04
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,500	15,000	14,000	7,600	14,000
Elutriate Final pH	pH units	12.2	12.7	12.7	12.4	12.6
Total Cyanide in Eluates	mg/L	0.009	0.46	0.26	0.089	0.13
Fluoride, F in Eluates	mg/L	3.4	47	38	16	26

SW846-1315 LEAF Monolith						
Our Reference		162119-E-221	162119-E-222	162119-E-223	162119-E-224	162119-E-225
Your Reference	UNITS	MW203 + 50% Lime WET T05	MW203 + 50% Lime WET T06	MW203 + 50% Lime WET T07	MW203 + 50% Lime WET T08	MW203 + 50% Lime WET T09
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	7,300	3,600	1,900	1,000	1,000
Elutriate Final pH	pH units	12.5	12.1	12.0	11.8	11.9
Total Cyanide in Eluates	mg/L	0.047	0.017	0.007	<0.004	<0.004
Fluoride, F in Eluates	mg/L	11	7.0	5.2	3.5	3.9

SW846-1315 LEAF Monolith						
Our Reference		162119-E-226	162119-E-227	162119-E-228	162119-E-229	162119-E-230
Your Reference	UNITS	MW204 + 50% Lime WET T01	MW204 + 50% Lime WET T02	MW204 + 50% Lime WET T03	MW204 + 50% Lime WET T04	MW204 + 50% Lime WET T05
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	13,000	12,000	6,900	14,000	8,900
Elutriate Final pH	pH units	12.7	12.6	12.4	12.6	12.5
Total Cyanide in Eluates	mg/L	0.49	0.49	0.28	0.69	0.46
Fluoride, F in Eluates	mg/L	45	30	13	23	13

SW846-1315 LEAF Monolith						
Our Reference		162119-E-231	162119-E-232	162119-E-233	162119-E-234	162119-E-235
Your Reference	UNITS	MW204 + 50% Lime WET T06	MW204 + 50% Lime WET T07	MW204 + 50% Lime WET T08	MW204 + 50% Lime WET T09	MW205 + 50% Lime WET T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	4,800	2,300	1,000	1,000	15,000
Elutriate Final pH	pH units	12.3	12.0	11.8	11.9	12.7
Total Cyanide in Eluates	mg/L	0.16	0.050	<0.004	0.011	0.63
Fluoride, F in Eluates	mg/L	8.2	5.2	3.3	3.7	61

SW846-1315 LEAF Monolith						
Our Reference		162119-E-236	162119-E-237	162119-E-238	162119-E-239	162119-E-240
Your Reference	UNITS	MW205 + 50% Lime WET T02	MW205 + 50% Lime WET T03	MW205 + 50% Lime WET T04	MW205 + 50% Lime WET T05	MW205 + 50% Lime WET T06
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	14,000	8,500	13,000	5,100	2,100
Elutriate Final pH	pH units	12.7	12.5	12.6	12.3	11.9
Total Cyanide in Eluates	mg/L	0.35	0.14	0.28	0.090	0.024
Fluoride, F in Eluates	mg/L	46	20	27	12	5.8

SW846-1315 LEAF Monolith						
Our Reference		162119-E-241	162119-E-242	162119-E-243	162119-E-244	162119-E-245
Your Reference	UNITS	MW205 + 50% Lime WET T07	MW205 + 50% Lime WET T08	MW205 + 50% Lime WET T09	MW206 + 50% Lime WET T01	MW206 + 50% Lime WET T02
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,200	840	740	8,300	8,900
Elutriate Final pH	pH units	11.8	11.8	11.7	12.6	12.6
Total Cyanide in Eluates	mg/L	0.015	0.008	0.007	0.13	0.060
Fluoride, F in Eluates	mg/L	4.9	4.8	3.8	24	19

SW846-1315 LEAF Monolith						
Our Reference		162119-E-246	162119-E-247	162119-E-248	162119-E-249	162119-E-250
Your Reference	UNITS	MW206 + 50% Lime WET T03	MW206 + 50% Lime WET T04	MW206 + 50% Lime WET T05	MW206 + 50% Lime WET T06	MW206 + 50% Lime WET T07
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	5,000	9,900	6,200	3,500	1,300
Elutriate Final pH	pH units	12.3	12.6	12.4	12.2	11.8
Total Cyanide in Eluates	mg/L	0.025	0.057	0.031	0.018	0.007
Fluoride, F in Eluates	mg/L	9.3	16	9.4	5.0	4.1

SW846-1315 LEAF Monolith						
Our Reference		162119-E-251	162119-E-252	162119-E-253	162119-E-254	162119-E-255
Your Reference	UNITS	MW206 + 50% Lime WET T08	MW206 + 50% Lime WET T09	MW201 + 30% Cement WET T01	MW201 + 30% Cement WET T02	MW201 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,000	1,100	5,000	4,600	3,200
Elutriate Final pH	pH units	11.8	11.9	12.2	12.2	12.0
Total Cyanide in Eluates	mg/L	0.004	0.004	1.6	1.7	1.1
Fluoride, F in Eluates	mg/L	3.5	2.9	120	110	77

SW846-1315 LEAF Monolith						
Our Reference		162119-E-256	162119-E-257	162119-E-258	162119-E-259	162119-E-260
Your Reference	UNITS	MW201 + 30% Cement WET T04	MW201 + 30% Cement WET T05	MW201 + 30% Cement WET T06	MW201 + 30% Cement WET T07	MW201 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	5,800	5,000	3,100	2,300	880
Elutriate Final pH	pH units	12.3	12.3	12.0	11.9	11.7
Total Cyanide in Eluates	mg/L	2.5	1.7	0.89	0.24	0.028
Fluoride, F in Eluates	mg/L	130	74	37	31	12

SW846-1315 LEAF Monolith						
Our Reference		162119-E-261	162119-E-262	162119-E-263	162119-E-264	162119-E-265
Your Reference	UNITS	MW201 + 30% Cement WET T09	MW202 + 30% Cement WET T01	MW202 + 30% Cement WET T02	MW202 + 30% Cement WET T03	MW202 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	620	3,200	3,600	2,900	5,700
Elutriate Final pH	pH units	11.2	11.6	11.7	11.7	12.0
Total Cyanide in Eluates	mg/L	0.030	1.4	1.5	1.0	2.5
Fluoride, F in Eluates	mg/L	13	120	120	110	300

SW846-1315 LEAF Monolith						
Our Reference		162119-E-266	162119-E-267	162119-E-268	162119-E-269	162119-E-270
Your Reference	UNITS	MW202 + 30% Cement WET T05	MW202 + 30% Cement WET T06	MW202 + 30% Cement WET T07	MW202 + 30% Cement WET T08	MW202 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	5,700	4,700	3,000	1,300	960
Elutriate Final pH	pH units	12.1	12.1	12.0	11.8	11.2
Total Cyanide in Eluates	mg/L	1.7	1.0	0.32	0.061	0.049
Fluoride, F in Eluates	mg/L	220	160	88	26	37

SW846-1315 LEAF Monolith						
Our Reference		162119-E-271	162119-E-272	162119-E-273	162119-E-274	162119-E-275
Your Reference	UNITS	MW203+ 30% Cement WET T01	MW203+ 30% Cement WET T02	MW203+ 30% Cement WET T03	MW203+ 30% Cement WET T04	MW203+ 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	5,000	4,000	3,100	5,000	5,300
Elutriate Final pH	pH units	11.8	11.7	11.6	11.8	12.0
Total Cyanide in Eluates	mg/L	6.4	4.7	3.0	4.9	4.0
Fluoride, F in Eluates	mg/L	160	170	150	270	340

SW846-1315 LEAF Monolith						
Our Reference		162119-E-276	162119-E-277	162119-E-278	162119-E-279	162119-E-280
Your Reference	UNITS	MW203+ 30% Cement WET T06	MW203+ 30% Cement WET T07	MW203+ 30% Cement WET T08	MW203+ 30% Cement WET T09	MW204 + 30% Cement WET T01
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	4,300	2,200	1,400	1,500	4,900
Elutriate Final pH	pH units	11.9	10.7	11.7	11.8	11.7
Total Cyanide in Eluates	mg/L	1.8	0.48	0.092	0.080	4.2
Fluoride, F in Eluates	mg/L	270	150	56	55	140

SW846-1315 LEAF Monolith						
Our Reference		162119-E-281	162119-E-282	162119-E-283	162119-E-284	162119-E-285
Your Reference	UNITS	MW204 + 30% Cement WET T02	MW204 + 30% Cement WET T03	MW204 + 30% Cement WET T04	MW204 + 30% Cement WET T05	MW204 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	4,400	3,400	5,600	6,200	4,900
Elutriate Final pH	pH units	11.8	11.7	12.0	12.2	12.1
Total Cyanide in Eluates	mg/L	3.2	2.0	3.3	2.4	1.3
Fluoride, F in Eluates	mg/L	130	120	210	220	150

SW846-1315 LEAF Monolith						
Our Reference		162119-E-286	162119-E-287	162119-E-288	162119-E-298	162119-E-299
Your Reference	UNITS	MW204 + 30% Cement WET T07	MW204 + 30% Cement WET T08	MW204 + 30% Cement WET T09	MW206 + 30% Cement WET T01	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	3,400	1,500	1,000	3,700	3,500
Elutriate Final pH	pH units	12.0	11.8	10.6	11.7	11.8
Total Cyanide in Eluates	mg/L	0.42	0.10	0.061	4.4	4.1
Fluoride, F in Eluates	mg/L	86	28	42	110	100

SW846-1315 LEAF Monolith						
Our Reference		162119-E-300	162119-E-301	162119-E-302	162119-E-303	162119-E-304
Your Reference	UNITS	MW206 + 30% Cement WET T03	MW206 + 30% Cement WET T04	MW206 + 30% Cement WET T05	MW206 + 30% Cement WET T06	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017	22/03/2017	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--	--	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D	See 162119-D	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	2,800	5,300	6,200	4,500	2,600
Elutriate Final pH	pH units	11.8	12.1	12.2	12.1	11.9
Total Cyanide in Eluates	mg/L	2.6	5.7	4.8	1.8	0.45
Fluoride, F in Eluates	mg/L	99	360	160	94	50

SW846-1315 LEAF Monolith			
Our Reference		162119-E-305	162119-E-306
Your Reference	UNITS	MW206 + 30% Cement WET T08	MW206 + 30% Cement WET
Date Sampled		10/02/2017	10/02/2017
Type of sample		Monolith LEAF Eluate Unfilt	Monolith LEAF Eluate Unfilt
Date prepared	-	22/03/2017	22/03/2017
Material Description	--	See 162119-D	See 162119-D
Mass Used	g	See 162119-D	See 162119-D
Mass of Sample before Elutriation Step	g	See 162119-D	See 162119-D
Geometry and Dimensions 3D or 1D	mm D x mm H	See 162119-D	See 162119-D
Moisture	%(w/w)	--	--
Elutriate Liquid Type	--	See 162119-D	See 162119-D
Elutriate Volume Used	mL	See 162119-D	See 162119-D
Elutriate Exchange Time/Day	--	See 162119-D	See 162119-D
Elutriate Final EC	µS/cm	1,200	1,300
Elutriate Final pH	pH units	11.8	11.8
Total Cyanide in Eluates	mg/L	0.092	0.079
Fluoride, F in Eluates	mg/L	19	23

Method ID	Methodology Summary
Inorg-014	Cyanide - free, total, weak acid dissociable by segmented flow analyser (in line dialysis with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-026	Fluoride determined by ion selective electrode (ISE) in accordance with APHA latest edition, 4500-F-C.
INORG-125	Leaching Environment Assessment Framework (LEAF) methods of leaching using USEPA methods SW846 1313, 1314, 1315 or 1316.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	162119-E-191
Date extracted	-			30/05/2017	182	05/04/2017	05/04/2017		26/05/2017	05/04/2017
Date analysed	-			31/05/2017	182	06/04/2017	06/04/2017		29/05/2017	06/04/2017
Naphthalene	µg/L	1	Org-012	<1	182	<1	<1	0	63	64
Acenaphthylene	µg/L	1	Org-012	<1	182	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	<1	182	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	<1	182	<1	<1	0	65	67
Phenanthrene	µg/L	1	Org-012	<1	182	<1	<1	0	74	75
Anthracene	µg/L	1	Org-012	<1	182	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	<1	182	<1	<1	0	71	76
Pyrene	µg/L	1	Org-012	<1	182	<1	<1	0	70	80
Benzo(a)anthracene	µg/L	1	Org-012	<1	182	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	<1	182	<1	<1	0	82	83
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	<2	182	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	<1	182	<1	<1	0	94	100
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	<1	182	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	<1	182	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	<1	182	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	110	182	107	91	16	71	86

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	162119-E-75
Date extracted	-			[NT]	272	05/04/2017	05/04/2017		30/05/2017	05/04/2017
Date analysed	-			[NT]	272	06/04/2017	06/04/2017		31/05/2017	06/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	272	<1	<1	0	80	61
Acenaphthylene	µg/L	1	Org-012	[NT]	272	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	272	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	272	<1	<1	0	73	77
Phenanthrene	µg/L	1	Org-012	[NT]	272	<1	<1	0	83	77
Anthracene	µg/L	1	Org-012	[NT]	272	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	272	<1	<1	0	82	80
Pyrene	µg/L	1	Org-012	[NT]	272	<1	<1	0	81	84
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	272	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	272	<1	<1	0	96	84
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	272	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	272	<1	<1	0	78	100
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	272	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	272	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	272	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	272	104	105	1	92	91

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	162119-E-282
Date extracted	-			[NT]	66	05/04/2017	05/04/2017		12/05/2017	05/04/2017
Date analysed	-			[NT]	66	06/04/2017	06/04/2017		15/05/2017	07/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	66	<1	<1	0	61	74
Acenaphthylene	µg/L	1	Org-012	[NT]	66	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	66	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	66	<1	<1	0	82	73
Phenanthrene	µg/L	1	Org-012	[NT]	66	<1	<1	0	85	79
Anthracene	µg/L	1	Org-012	[NT]	66	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	66	<1	<1	0	75	82
Pyrene	µg/L	1	Org-012	[NT]	66	<1	<1	0	74	86
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	66	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	66	<1	<1	0	63	86
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	66	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	66	<1	<1	0	64	100
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	66	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	66	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	66	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	66	110	103	7	83	96

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	162119-E-193
Date extracted	-			[NT]	156	05/04/2017	05/04/2017		12/05/2017	07/04/2017
Date analysed	-			[NT]	156	06/04/2017	06/04/2017		15/05/2017	07/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	156	<1	<1	0	85	87
Acenaphthylene	µg/L	1	Org-012	[NT]	156	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	156	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	156	<1	<1	0	82	95
Phenanthrene	µg/L	1	Org-012	[NT]	156	<1	<1	0	99	100
Anthracene	µg/L	1	Org-012	[NT]	156	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	156	1	2	67	86	92
Pyrene	µg/L	1	Org-012	[NT]	156	1	2	67	85	94
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	156	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	156	<1	<1	0	73	93
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	156	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	156	<1	<1	0	74	95
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	156	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	156	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	156	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	156	100	121	19	83	60

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	162119-E-14
Date extracted	-			[NT]	273	05/04/2017	05/04/2017		05/04/2017	11/04/2017
Date analysed	-			[NT]	273	07/04/2017	07/04/2017		07/04/2017	11/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	273	<1	<1	0	68	97
Acenaphthylene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	273	<1	<1	0	78	92
Phenanthrene	µg/L	1	Org-012	[NT]	273	<1	<1	0	90	99
Anthracene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	273	<1	<1	0	80	96
Pyrene	µg/L	1	Org-012	[NT]	273	<1	<1	0	78	99
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	273	<1	<1	0	71	73
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	273	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	273	<1	<1	0	73	82
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	273	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	273	98	98	0	88	86

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	162119-E-203
Date extracted	-			[NT]	94	07/04/2017	07/04/2017		05/04/2017	11/04/2017
Date analysed	-			[NT]	94	07/04/2017	07/04/2017		07/04/2017	11/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	94	<1	<1	0	70	94
Acenaphthylene	µg/L	1	Org-012	[NT]	94	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	94	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	94	<1	<1	0	75	130
Phenanthrene	µg/L	1	Org-012	[NT]	94	<1	<1	0	71	130
Anthracene	µg/L	1	Org-012	[NT]	94	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	94	<1	<1	0	81	120
Pyrene	µg/L	1	Org-012	[NT]	94	<1	<1	0	79	120
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	94	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	94	<1	<1	0	72	110
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	94	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	94	<1	<1	0	74	110
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	94	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	94	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	94	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	94	85	86	1	80	94

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	162119-E-15
Date extracted	-			[NT]	184	07/04/2017	07/04/2017		05/04/2017	19/04/2017
Date analysed	-			[NT]	184	07/04/2017	07/04/2017		07/04/2017	19/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	184	<1	<1	0	94	91
Acenaphthylene	µg/L	1	Org-012	[NT]	184	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	184	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	184	<1	<1	0	100	90
Phenanthrene	µg/L	1	Org-012	[NT]	184	<1	<1	0	110	96
Anthracene	µg/L	1	Org-012	[NT]	184	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	184	<1	<1	0	110	92
Pyrene	µg/L	1	Org-012	[NT]	184	<1	<1	0	100	94
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	184	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	184	<1	<1	0	80	79
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	184	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	184	<1	<1	0	80	79
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	184	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	184	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	184	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	184	77	73	5	70	72

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-195
Date extracted	-			[NT]	5	11/04/2017	11/04/2017		[NT]	20/04/2017
Date analysed	-			[NT]	5	11/04/2017	11/04/2017		[NT]	20/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	70
Acenaphthylene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	66
Phenanthrene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	78
Anthracene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	78
Pyrene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	79
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	60
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	5	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	72
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	5	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	5	88	80	10	[NT]	73

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-196
Date extracted	-			[NT]	95	11/04/2017	11/04/2017		[NT]	20/04/2017
Date analysed	-			[NT]	95	11/04/2017	11/04/2017		[NT]	20/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	90
Acenaphthylene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	69
Phenanthrene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	100
Anthracene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	99
Pyrene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	96
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	90
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	95	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	96
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	95	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	95	73	79	8	[NT]	92

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-17
Date extracted	-			[NT]	194	11/04/2017	11/04/2017		[NT]	20/04/2017
Date analysed	-			[NT]	194	11/04/2017	11/04/2017		[NT]	20/04/2017
Naphthalene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	63
Acenaphthylene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	85
Phenanthrene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	110
Anthracene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	88
Pyrene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	100
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	81
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	194	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	83
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	194	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	194	78	68	14	[NT]	104

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-197
Date extracted	-			[NT]	6	19/04/2017	19/04/2017		[NT]	11/05/2017
Date analysed	-			[NT]	6	19/04/2017	19/04/2017		[NT]	11/05/2017
Naphthalene	µg/L	1	Org-012	[NT]	6	<1	1	0	[NT]	75
Acenaphthylene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	94
Phenanthrene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	120
Anthracene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	95
Pyrene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	100
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	94
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	6	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	93
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	6	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	6	79	78	1	[NT]	100

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	96	19/04/2017	19/04/2017		[NT]	[NT]
Date analysed	-			[NT]	96	19/04/2017	19/04/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	96	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	96	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	96	93	92	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	186	20/04/2017	20/04/2017		[NT]	[NT]
Date analysed	-			[NT]	186	20/04/2017	20/04/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	186	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	186	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	186	71	72	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	276	21/04/2017	21/04/2017		[NT]	[NT]
Date analysed	-			[NT]	276	21/04/2017	21/04/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	276	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	276	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	276	124	121	2	[NT]	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	99	26/05/2017	26/05/2017		[NT]	[NT]
Date analysed	-			[NT]	99	29/05/2017	29/05/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	99	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	99	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	99	92	95	3	[NT]	[NT]

QUALITY CONTROL: PAHs in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	180	26/05/2017	30/05/2017		[NT]	[NT]
Date analysed	-			[NT]	180	29/05/2017	31/05/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	180	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	180	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	180	72	97	30	[NT]	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	270	26/05/2017	26/05/2017		[NT]	[NT]
Date analysed	-			[NT]	270	29/05/2017	29/05/2017		[NT]	[NT]
Naphthalene	µg/L	1	Org-012	[NT]	270	7	7	0	[NT]	[NT]
Acenaphthylene	µg/L	1	Org-012	[NT]	270	<1	<1	0	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	[NT]	270	3	3	0	[NT]	[NT]
Fluorene	µg/L	1	Org-012	[NT]	270	<1	<1	0	[NT]	[NT]
Phenanthrene	µg/L	1	Org-012	[NT]	270	4	3	29	[NT]	[NT]
Anthracene	µg/L	1	Org-012	[NT]	270	<1	<1	0	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	[NT]	270	2	1	67	[NT]	[NT]
Pyrene	µg/L	1	Org-012	[NT]	270	1	1	0	[NT]	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	[NT]	270	<1	<1	0	[NT]	[NT]
Chrysene	µg/L	1	Org-012	[NT]	270	<1	<1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	[NT]	270	<2	<2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	[NT]	270	<1	<1	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	[NT]	270	<1	<1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	[NT]	270	<1	<1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	[NT]	270	<1	<1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	270	109	99	10	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	162119-E-10
Date prepared	-			22/03/2017	1	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	<0.004	1	1.2	[NT]		99	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	<0.1	1	66	66	0	100	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	162119-E-11
Date prepared	-			[NT]	91	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	91	0.067	[NT]		110	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	91	14	14	0	97	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	162119-E-100
Date prepared	-			[NT]	92	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	92	0.054	[NT]		110	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	92	8.1	8.1	0	100	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	162119-E-101
Date prepared	-			[NT]	2	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	2	0.24	[NT]		110	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	2	41	40	2	98	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	162119-E-190
Date prepared	-			[NT]	181	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	181	0.90	[NT]		110	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	181	120	120	0	97	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	162119-E-191
Date prepared	-			[NT]	182	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	182	0.52	[NT]		120	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	182	98	100	2	97	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	162119-E-280
Date prepared	-			[NT]	271	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	271	6.4	[NT]		100	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	271	160	160	0	100	98

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W8	162119-E-281
Date prepared	-			[NT]	272	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	272	4.7	[NT]		100	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	272	170	160	6	100	95

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W9	162119-E-12
Date prepared	-			[NT]	273	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	273	3.0	[NT]		110	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	273	150	150	0	100	100

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W10	162119-E-13
Date prepared	-			[NT]	3	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	3	0.18	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	3	30	30	0	99	100

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W11	162119-E-102
Date prepared	-			[NT]	4	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	4	0.73	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	4	50	49	2	93	97

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W12	162119-E-103
Date prepared	-			[NT]	93	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	93	0.021	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	93	3.7	3.7	0	100	99

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W13	162119-E-192
Date prepared	-			[NT]	94	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	94	0.008	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	94	4.2	3.9	7	100	100

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W14	162119-E-193
Date prepared	-			[NT]	183	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	183	0.37	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	183	72	73	1	100	110

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W15	162119-E-283
Date prepared	-			[NT]	184	22/03/2017	22/03/2017		24/05/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	184	0.56	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	184	110	110	0	[NT]	93

QUALITY CONTROL: SW846-1315 LEAF Monolith					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W16	162119-E-14
Date prepared	-			[NT]	274	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	274	4.9	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	274	270	270	0	100	110

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W17	162119-E-104
Date prepared	-			[NT]	5	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	5	0.76	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	5	53	53	0	99	110

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	162119-E-194
Date prepared	-			[NT]	95	22/03/2017	22/03/2017		22/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	95	<0.004	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	95	3.2	3.2	0	[NT]	110

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	162119-E-284
Date prepared	-			[NT]	185	22/03/2017	22/03/2017		23/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	185	0.69	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	185	200	200	0	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	162119-E-15
Date prepared	-			[NT]	275	22/03/2017	22/03/2017		24/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	275	4.0	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	275	340	340	0	[NT]	97

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	162119-E-195
Date prepared	-			[NT]	6	22/03/2017	22/03/2017		29/03/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	6	0.94	0.92	2	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	6	54	54	0	[NT]	99

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	162119-E-105
Date prepared	-			[NT]	96	22/03/2017	22/03/2017		05/04/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	96	<0.004	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	96	3.2	3.2	0	[NT]	98

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	162119-E-285
Date prepared	-			[NT]	186	22/03/2017	22/03/2017		19/04/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	186	0.66	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	186	240	240	0	[NT]	96

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	162119-E-196
Date prepared	-			[NT]	276	22/03/2017	22/03/2017		03/05/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	276	1.8	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	276	270	270	0	[NT]	98

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	162119-E-17
Date prepared	-			[NT]	7	22/03/2017	22/03/2017		10/05/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	7	0.73	0.73	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	7	53	54	2	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-9	162119-E-106
Date prepared	-			[NT]	97	22/03/2017	22/03/2017		24/05/2017	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	97	<0.004	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	97	2.0	2.0	0	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-286
Date prepared	-			[NT]	188	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	188	0.19	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	188	110	110	0	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-107
Date prepared	-			[NT]	277	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	277	0.48	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	277	150	140	7	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-197
Date prepared	-			[NT]	187	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	187	0.55	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	187	210	210	0	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-287
Date prepared	-			[NT]	8	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	8	0.27	0.26	4	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	8	28	28	0	[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-55
Date prepared	-			[NT]	53	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	53	0.17	[NT]		[NT]	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	53	96	97	1	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-154
Date prepared	-			[NT]	98	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	98	<0.004	[NT]		[NT]	120
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	98	0.9	0.9	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-26
Date prepared	-			[NT]	233	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	233	<0.004	[NT]		[NT]	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	233	3.3	3.4	3	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-62
Date prepared	-			[NT]	278	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	278	0.092	[NT]		[NT]	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	278	56	54	4	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-61
Date prepared	-			[NT]	15	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	15	<0.004	<0.004	0	[NT]	120
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	15	1.3	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-25
Date prepared	-			[NT]	16	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	16	<0.004	<0.004	0	[NT]	120
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	16	0.7	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-60
Date prepared	-			[NT]	20	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	20	0.49	0.48	2	[NT]	96
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	20	150	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-24
Date prepared	-			[NT]	109	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	109	<0.004	<0.004	0	[NT]	87
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	109	5.2	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-18
Date prepared	-			[NT]	145	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	145	0.95	0.95	0	[NT]	110
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	145	35	[NT]		[NT]	98

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-108
Date prepared	-			[NT]	160	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	160	<0.004	<0.004	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	160	1.2	[NT]		[NT]	99

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-198
Date prepared	-			[NT]	161	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	161	<0.004	<0.004	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	161	0.4	[NT]		[NT]	100

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-288
Date prepared	-			[NT]	169	22/03/2017	22/03/2017		[NT]	22/03/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	169	2.7	2.8	4	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	169	120	[NT]		[NT]	99

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	162119-E-207
Date prepared	-			[NT]	170	22/03/2017	22/03/2017		[NT]	24/05/2017
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	170	1.0	1.1	10	[NT]	65
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	170	82	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	195	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	195	0.93	0.89	4	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	195	400	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	9	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	9	0.23	0.24	4	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	9	35	35	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	99	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	99	<0.004	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	99	1.3	1.2	8	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	189	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	189	0.19	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	189	150	150	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	279	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	279	0.080	[NT]		[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	279	55	55	0	[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	108	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	108	<0.004	<0.004	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	108	0.3	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	198	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	198	0.33	0.34	3	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	198	220	[NT]		[NT]	[NT]

QUALITY CONTROL: SW846-1315 LEAF Monolith						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	288	22/03/2017	22/03/2017		[NT]	[NT]
Total Cyanide in Eluates	mg/L	0.004	Inorg-014	[NT]	288	0.061	0.061	0	[NT]	[NT]
Fluoride, F in Eluates	mg/L	0.1	Inorg-026	[NT]	288	42	[NT]		[NT]	[NT]

Result Definitions

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

Quality Control Definitions

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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CERTIFICATE OF ANALYSIS 162119-F

Client:

Ramboll Environ Australia Pty Ltd
PO Box 560
North Sydney
NSW 2060

Attention: Fiona Robinson, Craig Goodbody

Sample log in details:

Your Reference:	**Hydro Aluminium AS130515**
No. of samples:	Additional Amendments and Fly Ash analysis
Date samples received / completed instructions received	26/04//2017 / 26/04/2017

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	15/05/17 / 12/05/17
Date of Preliminary Report:	Not Issued

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

Results Approved By:

David Springer
General Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	---------- -	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	106	100	98	102	99

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	---------- -	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	99	108	107	98	103

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	103	104	92	94	91

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	91	90	90	95

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	162119-F-21	162119-F-22	162119-F-23	162119-F-24	162119-F-25
Your Reference	---------- -	MW203 10% CEMENTWET	MW204 10% CEMENTWET	MW205 10% CEMENTWET	MW206 10% CEMENTWET	B.W F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	96	90	93	90	99

vTRH(C6-C10)/BTEXN in Soil				
Our Reference:	UNITS	162119-F-26	162119-F-27	162119-F-28
Your Reference	---------- -	B.W R.O.S	ERERING R.O.S	ERARING F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	101	97

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	----------	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	290	4,100	680	2,400	3,600
TRHC$_{29}$ - C$_{36}$	mg/kg	250	3,800	940	4,100	4,100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	120	<50	68	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	120	<50	68	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	480	7,100	1,400	5,500	6,800
TRH>C$_{34}$-C$_{40}$	mg/kg	130	1,500	580	2,400	2,200
Total +ve TRH (>C10-C40)	mg/kg	600	8,700	2,000	8,000	8,900
Surrogate o-Terphenyl	%	87	98	90	110	90

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	----------	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	4,900	300	4,000	590	2,500
TRHC$_{29}$ - C$_{36}$	mg/kg	5,600	410	3,900	850	4,200
TRH>C$_{10}$-C$_{16}$	mg/kg	78	<50	100	<50	66
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	78	<50	100	<50	66
TRH>C$_{16}$-C$_{34}$	mg/kg	9,200	590	7,100	1,200	5,700
TRH>C$_{34}$-C$_{40}$	mg/kg	2,900	300	1,600	560	2,400
Total +ve TRH (>C10-C40)	mg/kg	12,000	890	8,900	1,800	8,100
Surrogate o-Terphenyl	%	97	85	99	87	109

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	3,600	5,100	150	1,300	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	4,200	5,800	260	1,200	130
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	74	<50	71	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	74	<50	71	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	6,800	9,600	320	2,200	160
TRH>C$_{34}$-C$_{40}$	mg/kg	2,000	2,900	220	550	<100
Total +ve TRH (>C10-C40)	mg/kg	8,900	13,000	550	2,900	160
Surrogate o-Terphenyl	%	91	99	82	85	80

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	1,200	270	1,800	<100	3,000
TRHC$_{29}$ - C$_{36}$	mg/kg	1,900	330	2,300	<100	2,900
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	87
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	87
TRH>C$_{16}$-C$_{34}$	mg/kg	2,600	520	3,600	<100	5,300
TRH>C$_{34}$-C$_{40}$	mg/kg	1,100	190	1,300	<100	1,400
Total +ve TRH (>C10-C40)	mg/kg	3,700	710	5,000	<50	6,800
Surrogate o-Terphenyl	%	90	80	84	79	87

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	162119-F-21	162119-F-22	162119-F-23	162119-F-24	162119-F-25
Your Reference	---------- -	MW203 10% CEMENTWET	MW204 10% CEMENTWET	MW205 10% CEMENTWET	MW206 10% CEMENTWET	B.W F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
$TRHC_{10}$ - C_{14}	mg/kg	<50	<50	<50	<50	<50
$TRHC_{15}$ - C_{28}	mg/kg	350	1,700	2,800	3,300	<100
$TRHC_{29}$ - C_{36}	mg/kg	510	2,700	3,400	4,100	<100
$TRH>C_{10}$-C_{16}	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{10}$ - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
$TRH>C_{16}$-C_{34}	mg/kg	730	3,700	5,500	6,500	<100
$TRH>C_{34}$-C_{40}	mg/kg	360	1,600	1,800	2,100	<100
Total +ve TRH (>C10-C40)	mg/kg	1,100	5,300	7,200	8,600	<50
Surrogate o-Terphenyl	%	79	92	83	86	75

svTRH (C10-C40) in Soil				
Our Reference:	UNITS	162119-F-26	162119-F-27	162119-F-28
Your Reference	---------- -	B.W R.O.S	ERERING R.O.S	ERARING F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017
$TRHC_{10}$ - C_{14}	mg/kg	<50	<50	<50
$TRHC_{15}$ - C_{28}	mg/kg	<100	<100	<100
$TRHC_{29}$ - C_{36}	mg/kg	<100	<100	<100
$TRH>C_{10}$-C_{16}	mg/kg	<50	<50	<50
$TRH>C_{10}$ - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50
$TRH>C_{16}$-C_{34}	mg/kg	<100	<100	<100
$TRH>C_{34}$-C_{40}	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50
Surrogate o-Terphenyl	%	67	81	76

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-1 MW201 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-2 MW202 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-3 MW203 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-4 MW204 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-5 MW205 10% LIME DRY 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	9/05/2017	9/05/2017	9/05/2017	9/05/2017	9/05/2017
Naphthalene	mg/kg	1.4	2.5	0.6	1.2	1.9
Acenaphthylene	mg/kg	<0.1	0.2	<0.1	0.4	0.3
Acenaphthene	mg/kg	2.4	34	4.8	9.3	15
Fluorene	mg/kg	0.6	20	1.8	3.3	7.7
Phenanthrene	mg/kg	7.7	120	13	43	84
Anthracene	mg/kg	0.8	16	1.9	4.0	5.8
Fluoranthene	mg/kg	25	310	42	100	290
Pyrene	mg/kg	24	300	39	96	290
Benzo(a)anthracene	mg/kg	15	190	23	64	270
Chrysene	mg/kg	20	190	24	59	250
Benzo(b,j+k)fluoranthene	mg/kg	33	340	44	110	470
Benzo(a)pyrene	mg/kg	12	200	24	64	270
Indeno(1,2,3-c,d)pyrene	mg/kg	9.8	160	20	56	210
Dibenzo(a,h)anthracene	mg/kg	1.8	15	2.2	9.5	24
Benzo(g,h,i)perylene	mg/kg	9.0	140	18	47	170
Benzo(a)pyrene TEQ calc (zero)	mg/kg	19	290	36	98	390
Benzo(a)pyrene TEQ calc(half)	mg/kg	19	290	36	98	390
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	19	290	36	98	390
Total +ve PAH's	mg/kg	160	2,000	260	670	2,400
Surrogate p-Terphenyl-d14	%	#	126	100	115	12

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-6 MW206 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-7 MW201 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-8 MW202 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-9 MW203 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-10 MW204 10% CEMENT DRY 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	9/05/2017	8/05/2017	9/05/2017	9/05/2017	9/05/2017
Naphthalene	mg/kg	1.6	0.9	2.1	1.1	1.1
Acenaphthylene	mg/kg	0.2	<0.1	0.3	0.2	0.4
Acenaphthene	mg/kg	25	1.5	25	3.9	8.1
Fluorene	mg/kg	12	0.5	14	1.8	3.9
Phenanthrene	mg/kg	83	6.6	90	15	46
Anthracene	mg/kg	19	1.4	12	1.9	4.2
Fluoranthene	mg/kg	380	19	310	39	110
Pyrene	mg/kg	360	18	310	36	96
Benzo(a)anthracene	mg/kg	370	18	200	19	63
Chrysene	mg/kg	340	15	200	22	59
Benzo(b,j+k)fluoranthene	mg/kg	670	37	360	38	110
Benzo(a)pyrene	mg/kg	370	16	220	21	63
Indeno(1,2,3-c,d)pyrene	mg/kg	290	11	170	17	56
Dibenzo(a,h)anthracene	mg/kg	37	2.8	16	1.8	9.4
Benzo(g,h,i)perylene	mg/kg	230	7.5	150	16	48
Benzo(a)pyrene TEQ calc (zero)	mg/kg	550	26	310	31	97
Benzo(a)pyrene TEQ calc(half)	mg/kg	550	26	310	31	97
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	550	26	310	31	97
Total +ve PAH's	mg/kg	3,200	160	2,100	230	670
Surrogate p-Terphenyl-d14	%	129	84	129	#	129

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-11 MW205 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-12 MW206 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-13 MW201 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-14 MW202 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-15 MW203 10% LIME WET 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	9/05/2017	9/05/2017	8/05/2017	9/05/2017	8/05/2017
Naphthalene	mg/kg	2.5	1.5	0.4	1.2	0.2
Acenaphthylene	mg/kg	0.3	0.2	<0.1	0.1	<0.1
Acenaphthene	mg/kg	16	23	0.7	14	0.8
Fluorene	mg/kg	8.0	11	0.3	12	0.4
Phenanthrene	mg/kg	80	120	3.3	52	3.1
Anthracene	mg/kg	5.4	16	0.4	6.1	0.5
Fluoranthene	mg/kg	280	360	13	110	7.6
Pyrene	mg/kg	280	340	12	100	7.0
Benzo(a)anthracene	mg/kg	250	350	12	69	4.3
Chrysene	mg/kg	230	340	9.8	60	4.2
Benzo(b,j+k)fluoranthene	mg/kg	430	690	22	120	8.1
Benzo(a)pyrene	mg/kg	240	350	8.5	70	4.7
Indeno(1,2,3-c,d)pyrene	mg/kg	190	300	5.8	57	4.1
Dibenzo(a,h)anthracene	mg/kg	21	37	1.3	8.4	0.7
Benzo(g,h,i)perylene	mg/kg	160	220	3.2	49	3.5
Benzo(a)pyrene TEQ calc (zero)	mg/kg	350	520	14	100	7.1
Benzo(a)pyrene TEQ calc(half)	mg/kg	350	520	14	100	7.1
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	350	520	14	100	7.1
Total +ve PAH's	mg/kg	2,200	3,100	94	720	49
Surrogate p-Terphenyl-d14	%	135	135	93	125	76

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-16 MW204 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-17 MW205 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-18 MW206 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-19 MW201 10% CEMENT WET 27/04/2017 Treated Solid Waste	162119-F-20 MW202 10% CEMENT WET 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	9/05/2017	9/05/2017	9/05/2017	8/05/2017	9/05/2017
Naphthalene	mg/kg	0.7	1.2	1.3	0.1	2.0
Acenaphthylene	mg/kg	0.7	<0.1	0.1	<0.1	0.2
Acenaphthene	mg/kg	3.9	1	6.6	0.2	20
Fluorene	mg/kg	2.1	0.8	4.8	<0.1	16
Phenanthrene	mg/kg	21	5.7	45	1.1	98
Anthracene	mg/kg	1.6	0.7	13	0.2	22
Fluoranthene	mg/kg	59	24	120	3.8	230
Pyrene	mg/kg	55	23	110	3.6	230
Benzo(a)anthracene	mg/kg	35	17	120	2.5	160
Chrysene	mg/kg	33	19	110	3.0	140
Benzo(b,j+k)fluoranthene	mg/kg	59	32	240	6.0	270
Benzo(a)pyrene	mg/kg	31	18	140	2.2	180
Indeno(1,2,3-c,d)pyrene	mg/kg	25	13	110	2.1	150
Dibenzo(a,h)anthracene	mg/kg	2.9	1.9	23	0.3	24
Benzo(g,h,i)perylene	mg/kg	21	10	93	1.7	130
Benzo(a)pyrene TEQ calc (zero)	mg/kg	46	26	220	3.6	260
Benzo(a)pyrene TEQ calc(half)	mg/kg	46	26	220	3.6	260
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	46	26	220	3.6	260
Total +ve PAH's	mg/kg	350	170	1,100	27	1,700
Surrogate p-Terphenyl-d14	%	#	106	112	83	96

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-21 MW203 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-22 MW204 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-23 MW205 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-24 MW206 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-25 B.W F.G 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	8/05/2017	9/05/2017	9/05/2017	9/05/2017	8/05/2017
Naphthalene	mg/kg	0.6	1.4	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	0.3	0.2	0.2	<0.1
Acenaphthene	mg/kg	2.2	3.8	<0.1	11	<0.1
Fluorene	mg/kg	1.0	3.7	5.3	5.5	<0.1
Phenanthrene	mg/kg	10	38	53	75	<0.1
Anthracene	mg/kg	1.7	2.9	3.7	7.0	<0.1
Fluoranthene	mg/kg	23	93	200	250	0.2
Pyrene	mg/kg	22	86	190	230	0.2
Benzo(a)anthracene	mg/kg	14	57	180	230	0.1
Chrysene	mg/kg	14	52	170	240	0.1
Benzo(b,j+k)fluoranthene	mg/kg	28	97	300	470	0.3
Benzo(a)pyrene	mg/kg	17	54	170	250	0.2
Indeno(1,2,3-c,d)pyrene	mg/kg	14	46	130	190	0.1
Dibenzo(a,h)anthracene	mg/kg	2.5	7.2	<0.1	22	<0.1
Benzo(g,h,i)perylene	mg/kg	13	38	110	160	0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	25	82	240	370	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	25	82	240	370	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	25	82	240	370	<0.5
Total +ve PAH's	mg/kg	160	580	1,500	2,100	1.3
Surrogate p-Terphenyl-d14	%	74	101	106	#	99

PAHs in Soil Our Reference: Your Reference	UNITS ----------	162119-F-26 B.W R.O.S	162119-F-27 ERERING R.O.S	162119-F-28 ERARING F.G
	-			
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	8/05/2017	8/05/2017	8/05/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	#	#	#

Organochlorine Pesticides in soil						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	----------	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.2	<0.4	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	82	73	82	90

Organochlorine Pesticides in soil						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	----------	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.3	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.2	<0.4
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	83	89	109	81	73

Organochlorine Pesticides in soil						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.3	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	82	75	90	77

Organochlorine Pesticides in soil						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.3	<0.1	<0.2	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	81	83	85	78

Organochlorine Pesticides in soil						
Our Reference:	UNITS	162119-F-21	162119-F-22	162119-F-23	162119-F-24	162119-F-25
Your Reference	----------	MW203 10% CEMENTWET	MW204 10% CEMENTWET	MW205 10% CEMENTWET	MW206 10% CEMENTWET	B.W F.G
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.3	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	75	79	80	100

Organochlorine Pesticides in soil				
Our Reference:	UNITS	162119-F-26	162119-F-27	162119-F-28
Your Reference	---------- -	B.W R.O.S	ERERING R.O.S	ERARING F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017
HCB	mg/kg	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1
Surrogate TCMX	%	35	79	58

Organophosphorus Pesticides						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	----------	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.5	<0.1	<0.2	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	82	73	82	90

Organophosphorus Pesticides						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	----------	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.5
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	83	89	109	81	73

Organophosphorus Pesticides						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.4	<0.5	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	82	75	90	77

Organophosphorus Pesticides						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.5
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	81	83	85	78

Organophosphorus Pesticides Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-21 MW203 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-22 MW204 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-23 MW205 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-24 MW206 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-25 B.W F.G 27/04/2017 Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	75	79	80	100

Organophosphorus Pesticides Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-26 B.W R.O.S 27/04/2017 Treated Solid Waste	162119-F-27 ERERING R.O.S 27/04/2017 Treated Solid Waste	162119-F-28 ERARING F.G 27/04/2017 Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	02/05/2017	02/05/2017	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1
Surrogate TCMX	%	#	79	58

SVOCs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-1 MW201 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-2 MW202 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-3 MW203 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-4 MW204 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-5 MW205 10% LIME DRY 27/04/2017 Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Phenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-Methylphenol	mg/kg	<1	<1	<1	<1	<1
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
4-nitrophenol	mg/kg	<10	<10	<10	<10	<10
diethylphthalate	mg/kg	<1	<1	<1	<1	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
di-n-butylphthalate	mg/kg	<1	<1	<1	<1	<1
butylbenzylphthalate	mg/kg	<1	<1	<1	<1	<1
bis(2-ethylhexyl)phthalate	mg/kg	<1	<1	<1	<1	<1
di-n-octylphthalate	mg/kg	<1	<1	<1	<1	<1
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate 2-fluorophenol	%	47	35	38	42	66
Surrogate Phenol-d_6	%	47	54	68	40	64
Surrogate Nitrobenzene-d_5	%	63	69	103	62	92
Surrogate 2-fluorobiphenyl	%	85	95	106	97	91
Surrogate 2,4,6-Tribromophenol	%	115	72	33	#	#
Surrogate p-Terphenyl-d_{14}	%	112	138	119	129	124

SVOCs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-6 MW206 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-7 MW201 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-8 MW202 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-9 MW203 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-10 MW204 10% CEMENT DRY 27/04/2017 Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Phenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-Methylphenol	mg/kg	<1	<1	<1	<1	<1
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
4-nitrophenol	mg/kg	<10	<10	<10	<10	<10
diethylphthalate	mg/kg	<1	<1	<1	<1	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
di-n-butylphthalate	mg/kg	<1	<1	<1	<1	<1
butylbenzylphthalate	mg/kg	<1	<1	<1	<1	<1
bis(2-ethylhexyl)phthalate	mg/kg	<1	<1	<1	<1	<1
di-n-octylphthalate	mg/kg	<1	<1	<1	<1	<1
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate 2-fluorophenol	%	44	60	73	49	56
Surrogate Phenol-d_6	%	44	57	73	68	71
Surrogate Nitrobenzene-d_5	%	66	63	61	50	51
Surrogate 2-fluorobiphenyl	%	97	90	87	108	98
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	140	112	124	124	129

SVOCs in Soil						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Phenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-Methylphenol	mg/kg	<1	<1	<1	<1	<1
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
4-nitrophenol	mg/kg	<10	<10	<10	<10	<10
diethylphthalate	mg/kg	<1	<1	<1	<1	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
di-n-butylphthalate	mg/kg	<1	<1	<1	<1	<1
butylbenzylphthalate	mg/kg	<1	<1	<1	<1	<1
bis(2-ethylhexyl)phthalate	mg/kg	<1	<1	<1	<1	<1
di-n-octylphthalate	mg/kg	<1	<1	<1	<1	<1
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate 2-fluorophenol	%	54	43	#	45	#
Surrogate Phenol-d_6	%	74	60	#	48	#
Surrogate Nitrobenzene-d_5	%	76	69	46	61	40
Surrogate 2-fluorobiphenyl	%	103	97	93	94	91
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	140	135	106	118	99

SVOCs in Soil						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Phenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-Methylphenol	mg/kg	<1	<1	<1	<1	<1
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
4-nitrophenol	mg/kg	<10	<10	<10	<10	<10
diethylphthalate	mg/kg	<1	<1	<1	<1	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
di-n-butylphthalate	mg/kg	<1	<1	<1	<1	<1
butylbenzylphthalate	mg/kg	<1	<1	<1	<1	<1
bis(2-ethylhexyl)phthalate	mg/kg	<1	<1	<1	<1	<1
di-n-octylphthalate	mg/kg	<1	<1	<1	<1	<1
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate 2-fluorophenol	%	#	20	35	21	61
Surrogate Phenol-d_6	%	21	22	31	32	65
Surrogate Nitrobenzene-d_5	%	46	50	51	39	48
Surrogate 2-fluorobiphenyl	%	97	94	96	95	95
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	118	115	124	100	129

SVOCs in Soil						
Our Reference:	UNITS	162119-F-21	162119-F-22	162119-F-23	162119-F-24	162119-F-25
Your Reference	----------	MW203 10% CEMENTWET	MW204 10% CEMENTWET	MW205 10% CEMENTWET	MW206 10% CEMENTWET	B.W F.G
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Phenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-Methylphenol	mg/kg	<1	<1	<1	<1	<1
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
4-nitrophenol	mg/kg	<10	<10	<10	<10	<10
diethylphthalate	mg/kg	<1	<1	<1	<1	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
di-n-butylphthalate	mg/kg	<1	<1	<1	<1	<1
butylbenzylphthalate	mg/kg	<1	<1	<1	<1	<1
bis(2-ethylhexyl)phthalate	mg/kg	<1	<1	<1	<1	<1
di-n-octylphthalate	mg/kg	<1	<1	<1	<1	<1
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate 2-fluorophenol	%	44	58	79	53	25
Surrogate Phenol-d_6	%	51	65	83	64	37
Surrogate Nitrobenzene-d_5	%	38	53	57	51	58
Surrogate 2-fluorobiphenyl	%	98	107	95	99	88
Surrogate 2,4,6-Tribromophenol	%	#	#	#	#	#
Surrogate p-Terphenyl-d_{14}	%	116	129	124	124	#

SVOCs in Soil Our Reference: Your Reference	UNITS ----------	162119-F-26 B.W R.O.S	162119-F-27 ERERINGR.O.S	162119-F-28 ERARINGF.G
	-			
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017
Phenol	mg/kg	<0.5	<0.5	<0.5
2-Chlorophenol	mg/kg	<0.5	<0.5	<0.5
2-Methylphenol	mg/kg	<0.5	<0.5	<0.5
3/4-Methylphenol	mg/kg	<1	<1	<1
2,4-Dimethylphenol	mg/kg	<0.5	<0.5	<0.5
2-Nitrophenol	mg/kg	<0.5	<0.5	<0.5
2,4-Dichlorophenol	mg/kg	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5
2,4,6-trichlorophenol	mg/kg	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	<10	<10	<10
4-nitrophenol	mg/kg	<10	<10	<10
diethylphthalate	mg/kg	<1	<1	<1
2-methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10
pentachlorophenol	mg/kg	<5	<5	<5
di-n-butylphthalate	mg/kg	<1	<1	<1
butylbenzylphthalate	mg/kg	<1	<1	<1
bis(2-ethylhexyl)phthalate	mg/kg	<1	<1	<1
di-n-octylphthalate	mg/kg	<1	<1	<1
2,6-dichlorophenol	mg/kg	<0.5	<0.5	<0.5
2,3,4,6-tetrachlorophenol	mg/kg	<0.5	<0.5	<0.5
Surrogate 2-fluorophenol	%	#	#	#
Surrogate Phenol-d_6	%	25	30	23
Surrogate Nitrobenzene-d_5	%	32	57	36
Surrogate 2-fluorobiphenyl	%	53	86	74
Surrogate 2,4,6-Tribromophenol	%	#	#	#
Surrogate p-Terphenyl-d_{14}	%	#	#	#

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-1 MW201 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-2 MW202 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-3 MW203 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-4 MW204 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-5 MW205 10% LIME DRY 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-1 MW201 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-2 MW202 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-3 MW203 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-4 MW204 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-5 MW205 10% LIME DRY 27/04/2017 Treated Solid Waste
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	128	130	130	130	129
Surrogate aaa-Trifluorotoluene	%	106	100	98	102	99
Surrogate Toluene-d_8	%	93	93	93	94	93
Surrogate 4-Bromofluorobenzene	%	88	89	89	90	89

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-6 MW206 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-7 MW201 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-8 MW202 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-9 MW203 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-10 MW204 10% CEMENT DRY 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-6 MW206 10% LIME DRY 27/04/2017 Treated Solid Waste	162119-F-7 MW201 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-8 MW202 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-9 MW203 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-10 MW204 10% CEMENT DRY 27/04/2017 Treated Solid Waste
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	126	134	132	131	131
Surrogate aaa-Trifluorotoluene	%	99	108	107	98	103
Surrogate Toluene-d_8	%	94	95	93	94	94
Surrogate 4-Bromofluorobenzene	%	85	88	88	90	89

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-11 MW205 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-12 MW206 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-13 MW201 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-14 MW202 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-15 MW203 10% LIME WET 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-11 MW205 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-12 MW206 10% CEMENT DRY 27/04/2017 Treated Solid Waste	162119-F-13 MW201 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-14 MW202 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-15 MW203 10% LIME WET 27/04/2017 Treated Solid Waste
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	131	130	130	129	131
Surrogate aaa-Trifluorotoluene	%	103	104	92	94	91
Surrogate Toluene-d_8	%	95	93	94	94	93
Surrogate 4-Bromofluorobenzene	%	88	87	89	87	88

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-16 MW204 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-17 MW205 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-18 MW206 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-19 MW201 10% CEMENT WET 27/04/2017 Treated Solid Waste	162119-F-20 MW202 10% CEMENT WET 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-16 MW204 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-17 MW205 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-18 MW206 10% LIME WET 27/04/2017 Treated Solid Waste	162119-F-19 MW201 10% CEMENT WET 27/04/2017 Treated Solid Waste	162119-F-20 MW202 10% CEMENT WET 27/04/2017 Treated Solid Waste
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	130	131	129	130	132
Surrogate aaa-Trifluorotoluene	%	90	91	90	90	95
Surrogate Toluene-d_8	%	93	94	94	92	92
Surrogate 4-Bromofluorobenzene	%	88	87	89	89	88

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-21 MW203 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-22 MW204 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-23 MW205 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-24 MW206 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-25 B.W F.G 27/04/2017 Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017	4/05/2017	4/05/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1	<1	<1
chloroform	mg/kg	<1	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
bromoform	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
styrene	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1	<1	<1

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	162119-F-21 MW203 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-22 MW204 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-23 MW205 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-24 MW206 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-25 B.W F.G 27/04/2017 Treated Solid Waste
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	130	132	133	134	132
Surrogate aaa-Trifluorotoluene	%	96	90	93	90	99
Surrogate Toluene-d_8	%	92	92	94	93	94
Surrogate 4-Bromofluorobenzene	%	88	87	88	87	87

VOCs in soil Our Reference: Your Reference	UNITS ----------	162119-F-26 B.W R.O.S	162119-F-27 ERERING R.O.S	162119-F-28 ERARING F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date extracted	-	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	4/05/2017	4/05/2017	4/05/2017
Dichlorodifluoromethane	mg/kg	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1
bromochloromethane	mg/kg	<1	<1	<1
chloroform	mg/kg	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1
Cyclohexane	mg/kg	<1	<1	<1
carbon tetrachloride	mg/kg	<1	<1	<1
Benzene	mg/kg	<0.2	<0.2	<0.2
dibromomethane	mg/kg	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1
trichloroethene	mg/kg	<1	<1	<1
bromodichloromethane	mg/kg	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1
Toluene	mg/kg	<0.5	<0.5	<0.5
1,3-dichloropropane	mg/kg	<1	<1	<1
dibromochloromethane	mg/kg	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1
tetrachloroethene	mg/kg	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1
chlorobenzene	mg/kg	<1	<1	<1
Ethylbenzene	mg/kg	<1	<1	<1
bromoform	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
styrene	mg/kg	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1
o-Xylene	mg/kg	<1	<1	<1

VOCs in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	162119-F-26 B.W R.O.S 27/04/2017 Treated Solid Waste	162119-F-27 ERERING R.O.S 27/04/2017 Treated Solid Waste	162119-F-28 ERARING F.G 27/04/2017 Treated Solid Waste
1,2,3-trichloropropane	mg/kg	<1	<1	<1
isopropylbenzene	mg/kg	<1	<1	<1
bromobenzene	mg/kg	<1	<1	<1
n-propyl benzene	mg/kg	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1
1,3,5-trimethyl benzene	mg/kg	<1	<1	<1
tert-butyl benzene	mg/kg	<1	<1	<1
1,2,4-trimethyl benzene	mg/kg	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1
sec-butyl benzene	mg/kg	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1
4-isopropyl toluene	mg/kg	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1
n-butyl benzene	mg/kg	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1
hexachlorobutadiene	mg/kg	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1
Surrogate Dibromofluorometha	%	134	134	133
Surrogate aaa-Trifluorotoluene	%	98	101	97
Surrogate Toluene-d_8	%	94	95	91
Surrogate 4-Bromofluorobenzene	%	91	87	86

Acid Extractable metals in soil						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	----------	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Arsenic	mg/kg	5	35	46	7	40
Cadmium	mg/kg	<0.4	0.5	0.5	<0.4	0.4
Copper	mg/kg	15	110	290	32	63
Lead	mg/kg	12	180	240	24	54
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	6	9	3	5
Nickel	mg/kg	34	180	39	49	100
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	2	5	12	2	5
Zinc	mg/kg	71	740	2,600	150	620

Acid Extractable metals in soil						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	----------	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Arsenic	mg/kg	10	5	22	44	8
Cadmium	mg/kg	0.5	<0.4	0.5	0.5	<0.4
Copper	mg/kg	40	15	110	250	31
Lead	mg/kg	22	12	190	170	27
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	7	2	6	7	2
Nickel	mg/kg	70	32	170	40	48
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	3	2	6	9	2
Zinc	mg/kg	180	88	680	1,900	160

Acid Extractable metals in soil						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Arsenic	mg/kg	32	10	5	15	24
Cadmium	mg/kg	0.5	0.5	<0.4	0.5	0.4
Copper	mg/kg	58	35	19	80	210
Lead	mg/kg	51	19	15	140	150
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	4	4	2	4	8
Nickel	mg/kg	66	70	35	180	43
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	5	3	2	5	8
Zinc	mg/kg	600	150	120	540	1,200

Acid Extractable metals in soil						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Arsenic	mg/kg	8	18	10	5	17
Cadmium	mg/kg	0.4	0.5	0.5	<0.4	0.5
Copper	mg/kg	32	55	38	23	110
Lead	mg/kg	22	42	19	20	200
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	3	4	5	2	5
Nickel	mg/kg	53	64	75	33	160
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	2	4	3	6	7
Zinc	mg/kg	170	510	150	140	920

Acid Extractable metals in soil						
Our Reference:	UNITS	162119-F-21	162119-F-22	162119-F-23	162119-F-24	162119-F-25
Your Reference	---------- -	MW203 10% CEMENTWET	MW204 10% CEMENTWET	MW205 10% CEMENTWET	MW206 10% CEMENTWET	B.W F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Arsenic	mg/kg	52	8	22	11	7
Cadmium	mg/kg	0.5	<0.4	0.5	0.5	<0.4
Copper	mg/kg	230	32	69	48	4
Lead	mg/kg	160	23	63	25	4
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	9	3	5	5	5
Nickel	mg/kg	42	49	82	81	3
Selenium	mg/kg	<2	<2	<2	<2	<2
Silver	mg/kg	<1	<1	<1	<1	<1
Tin	mg/kg	9	2	6	3	2
Zinc	mg/kg	1,200	150	820	210	13

Acid Extractable metals in soil				
Our Reference:	UNITS	162119-F-26	162119-F-27	162119-F-28
Your Reference	---------- -	B.W R.O.S	ERERING R.O.S	ERARING F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	02/05/2017	02/05/2017	02/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017
Arsenic	mg/kg	6	7	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4
Copper	mg/kg	6	5	7
Lead	mg/kg	5	4	6
Mercury	mg/kg	0.2	<0.1	0.2
Molybdenum	mg/kg	5	5	4
Nickel	mg/kg	2	5	2
Selenium	mg/kg	2	<2	2
Silver	mg/kg	<1	<1	<1
Tin	mg/kg	3	2	3
Zinc	mg/kg	11	15	10

Misc Soil - Inorg						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	----------	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Free Cyanide in soil	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Cyanide	mg/kg	92	73	220	150	240

Misc Soil - Inorg						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	----------	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Free Cyanide in soil	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Cyanide	mg/kg	200	92	66	220	130

Misc Soil - Inorg						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Free Cyanide in soil	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Cyanide	mg/kg	210	190	95	68	200

Misc Soil - Inorg						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Free Cyanide in soil	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Cyanide	mg/kg	140	180	170	97	67

Misc Soil - Inorg Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	162119-F-21 MW203 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-22 MW204 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-23 MW205 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-24 MW206 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-25 B.W F.G 27/04/2017 Treated Solid Waste
Date prepared	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
Free Cyanide in soil	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Cyanide	mg/kg	190	83	200	180	<0.5

Misc Soil - Inorg Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	162119-F-26 B.W R.O.S 27/04/2017 Treated Solid Waste	162119-F-27 ERERING R.O.S 27/04/2017 Treated Solid Waste	162119-F-28 ERARING F.G 27/04/2017 Treated Solid Waste
Date prepared	-	03/05/2017	03/05/2017	03/05/2017
Date analysed	-	03/05/2017	03/05/2017	03/05/2017
Free Cyanide in soil	mg/kg	<0.5	<0.5	<0.5
Total Cyanide	mg/kg	<0.5	<0.5	<0.5

Miscellaneous Inorg - soil						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	----------	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Date analysed	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	17,000	19,000	33,000	19,000	14,000

Miscellaneous Inorg - soil						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	----------	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Date analysed	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	9,500	33,000	21,000	27,000	22,000

Miscellaneous Inorg - soil						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Date analysed	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	18,000	28,000	31,000	20,000	33,000

Miscellaneous Inorg - soil						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Date analysed	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	30,000	12,000	25,000	19,000	27,000

Miscellaneous Inorg - soil						
Our Reference:	UNITS	162119-F-21	162119-F-22	162119-F-23	162119-F-24	162119-F-25
Your Reference	---------- -	MW203 10% CEMENTWET	MW204 10% CEMENTWET	MW205 10% CEMENTWET	MW206 10% CEMENTWET	B.W F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Date analysed	-	05/05/2017	05/05/2017	05/05/2017	05/05/2017	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1	<1	<1
Total Fluoride	mg/kg	35,000	26,000	23,000	16,000	<50

Miscellaneous Inorg - soil				
Our Reference:	UNITS	162119-F-26	162119-F-27	162119-F-28
Your Reference	---------- -	B.W R.O.S	ERERING R.O.S	ERARING F.G
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	05/05/2017	05/05/2017	05/05/2017
Date analysed	-	05/05/2017	05/05/2017	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	<1	<1	<1
Total Fluoride	mg/kg	70	<50	<50

Moisture						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	----------	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	3/05/2017	3/05/2017	3/05/2017	3/05/2017	3/05/2017
Moisture	%	2.8	2.1	6.9	6.5	4.5

Moisture						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	----------	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	3/05/2017	3/05/2017	3/05/2017	3/05/2017	3/05/2017
Moisture	%	4.3	2.6	2.3	7.2	6.7

Moisture						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	3/05/2017	3/05/2017	3/05/2017	3/05/2017	3/05/2017
Moisture	%	4.5	4.1	25	23	24

Moisture						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	3/05/2017	3/05/2017	3/05/2017	3/05/2017	3/05/2017
Moisture	%	28	19	26	20	19

Moisture Our Reference: Your Reference	UNITS ----------	162119-F-21 MW203 10% CEMENTWET	162119-F-22 MW204 10% CEMENTWET	162119-F-23 MW205 10% CEMENTWET	162119-F-24 MW206 10% CEMENTWET	162119-F-25 B.W F.G
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	2/05/2017	2/05/2017	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	3/05/2017	3/05/2017	3/05/2017	3/05/2017	3/05/2017
Moisture	%	21	25	22	23	[ND]

Moisture Our Reference: Your Reference	UNITS ----------	162119-F-26 B.W R.O.S	162119-F-27 ERERING R.O.S	162119-F-28 ERARING F.G
	-			
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	2/05/2017	2/05/2017	2/05/2017
Date analysed	-	3/05/2017	3/05/2017	3/05/2017
Moisture	%	0.3	[ND]	0.3

TCLP - ASLP4439.3						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	----------	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	08/05/2017	08/05/2017	08/05/2017	08/05/2017	08/05/2017
pH of final Leachate	pH units	12.6	12.1	11.8	11.9	11.1
Total Cyanide in Leachate	mg/L	3.9	3.1	9.6	5.7	10

TCLP - ASLP4439.3						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	----------	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	08/05/2017	08/05/2017	08/05/2017	08/05/2017	08/05/2017
pH of final Leachate	pH units	12.3	10.7	10.4	10.4	10.5
Total Cyanide in Leachate	mg/L	8.6	5.8	2.6	9.9	6.5

TCLP - ASLP4439.3						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	08/05/2017	08/05/2017	08/05/2017	08/05/2017	08/05/2017
pH of final Leachate	pH units	10.4	10.6	12.3	11.2	11.2
Total Cyanide in Leachate	mg/L	8.9	7.9	3.7	2.5	6.9

TCLP - ASLP4439.3						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
Date prepared	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	08/05/2017	08/05/2017	08/05/2017	08/05/2017	08/05/2017
pH of final Leachate	pH units	11.4	11.1	11.5	10.7	10.3
Total Cyanide in Leachate	mg/L	5.3	7.1	5.7	3.3	3.1

TCLP - ASLP4439.3 Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	162119-F-21 MW203 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-22 MW204 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-23 MW205 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-24 MW206 10% CEMENTWET 27/04/2017 Treated Solid Waste	162119-F-25 B.W F.G 27/04/2017 Treated Solid Waste
Date prepared	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	08/05/2017	08/05/2017	08/05/2017	08/05/2017	08/05/2017
pH of final Leachate	pH units	10.4	10.4	10.3	10.5	11.0
Total Cyanide in Leachate	mg/L	7.3	4.2	7.3	6.7	<0.004

TCLP - ASLP4439.3 Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	162119-F-26 B.W R.O.S 27/04/2017 Treated Solid Waste	162119-F-27 ERERING R.O.S 27/04/2017 Treated Solid Waste	162119-F-28 ERARING F.G 27/04/2017 Treated Solid Waste
Date prepared	-	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	08/05/2017	08/05/2017	08/05/2017
pH of final Leachate	pH units	11.9	11.0	11.9
Total Cyanide in Leachate	mg/L	<0.004	<0.004	<0.004

PAHs in TCLP (USEPA 1311)						
Our Reference:	UNITS	162119-F-1	162119-F-2	162119-F-3	162119-F-4	162119-F-5
Your Reference	----------	MW201 10% LIME DRY	MW202 10% LIME DRY	MW203 10% LIME DRY	MW204 10% LIME DRY	MW205 10% LIME DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
pH of soil for fluid# determ.	pH units	12.4	12.4	12.5	12.4	12.5
pH of soil TCLP (after HCl)	pH units	12.2	11.9	11.5	11.5	10.5
Extraction fluid used	-	2	2	2	2	2
pH of final Leachate	pH units	6.0	6.4	6.7	6.6	6.4
Fluoride, F in leachate	mg/L	84	28	23	34	32
Date extracted	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Naphthalene in TCLP	mg/L	<0.001	0.003	0.001	<0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	0.020	0.001	0.005	<0.001
Fluorene in TCLP	mg/L	<0.001	0.004	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	<0.001	0.015	0.001	0.007	0.003
Anthracene in TCLP	mg/L	<0.001	0.002	<0.001	<0.001	<0.001
Fluoranthene in TCLP	mg/L	<0.001	0.007	0.002	0.004	0.004
Pyrene in TCLP	mg/L	<0.001	0.005	0.002	0.003	0.003
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	NIL (+)VE	0.057	0.0070	0.020	0.010
Surrogate p-Terphenyl-d14	%	91	95	104	99	102

PAHs in TCLP (USEPA 1311)						
Our Reference:	UNITS	162119-F-6	162119-F-7	162119-F-8	162119-F-9	162119-F-10
Your Reference	----------	MW206 10% LIME DRY	MW201 10% CEMENT DRY	MW202 10% CEMENT DRY	MW203 10% CEMENT DRY	MW204 10% CEMENT DRY
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
pH of soil for fluid# determ.	pH units	12.5	11.3	10.0	10.6	11.2
pH of soil TCLP (after HCl)	pH units	11.8	5.6	5.3	7.6	6.5
Extraction fluid used	-	2	2	2	2	2
pH of final Leachate	pH units	6.2	6.0	6.5	5.8	6.0
Fluoride, F in leachate	mg/L	54	130	95	220	130
Date extracted	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Naphthalene in TCLP	mg/L	<0.001	<0.001	0.003	<0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.002	<0.001	0.014	0.001	0.004
Fluorene in TCLP	mg/L	<0.001	<0.001	0.003	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.014	<0.001	0.014	<0.001	0.006
Anthracene in TCLP	mg/L	0.005	<0.001	0.002	<0.001	<0.001
Fluoranthene in TCLP	mg/L	0.010	<0.001	0.006	<0.001	0.003
Pyrene in TCLP	mg/L	0.008	<0.001	0.005	<0.001	0.002
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.038	NIL (+)VE	0.047	0.001	0.016
Surrogate p-Terphenyl-d14	%	95	107	86	99	90

PAHs in TCLP (USEPA 1311)						
Our Reference:	UNITS	162119-F-11	162119-F-12	162119-F-13	162119-F-14	162119-F-15
Your Reference	----------	MW205 10% CEMENT DRY	MW206 10% CEMENT DRY	MW201 10% LIME WET	MW202 10% LIME WET	MW203 10% LIME WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
pH of soil for fluid# determ.	pH units	10.5	11.5	12.4	12.3	12.1
pH of soil TCLP (after HCl)	pH units	5.8	7.2	9.3	9.8	9.7
Extraction fluid used	-	2	2	2	2	2
pH of final Leachate	pH units	5.9	6.2	5.7	5.4	5.5
Fluoride, F in leachate	mg/L	170	72	170	300	190
Date extracted	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Naphthalene in TCLP	mg/L	<0.001	<0.001	<0.001	0.004	0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.001	0.002	<0.001	0.016	0.001
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	0.003	<0.001
Phenanthrene in TCLP	mg/L	0.004	0.014	<0.001	0.012	<0.001
Anthracene in TCLP	mg/L	<0.001	0.004	<0.001	0.003	<0.001
Fluoranthene in TCLP	mg/L	0.004	0.01	<0.001	0.005	<0.001
Pyrene in TCLP	mg/L	0.003	0.008	<0.001	0.004	<0.001
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.014	0.037	NIL (+)VE	0.047	0.0030
Surrogate p-Terphenyl-d14	%	118	95	102	92	104

PAHs in TCLP (USEPA 1311)						
Our Reference:	UNITS	162119-F-16	162119-F-17	162119-F-18	162119-F-19	162119-F-20
Your Reference	----------	MW204 10% LIME WET	MW205 10% LIME WET	MW206 10% LIME WET	MW201 10% CEMENT WET	MW202 10% CEMENT WET
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
pH of soil for fluid# determ.	pH units	12.1	12.1	12.1	10.8	10.3
pH of soil TCLP (after HCl)	pH units	9.1	9.6	9.9	6.5	5.9
Extraction fluid used	-	2	2	2	2	2
pH of final Leachate	pH units	5.8	5.5	5.4	5.4	5.4
Fluoride, F in leachate	mg/L	140	280	240	190	220
Date extracted	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Naphthalene in TCLP	mg/L	0.001	<0.001	<0.001	<0.001	0.004
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.004	0.001	0.001	<0.001	0.014
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	0.003
Phenanthrene in TCLP	mg/L	0.006	0.003	0.010	<0.001	0.014
Anthracene in TCLP	mg/L	0.001	<0.001	0.003	0.001	0.003
Fluoranthene in TCLP	mg/L	0.003	0.003	0.008	<0.001	0.007
Pyrene in TCLP	mg/L	0.002	0.002	0.006	<0.001	0.005
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.018	0.010	0.029	0.001	0.051
Surrogate p-Terphenyl-d14	%	89	101	95	103	98

PAHs in TCLP (USEPA 1311)						
Our Reference:	UNITS	162119-F-21	162119-F-22	162119-F-23	162119-F-24	162119-F-25
Your Reference	----------	MW203 10% CEMENTWET	MW204 10% CEMENTWET	MW205 10% CEMENTWET	MW206 10% CEMENTWET	B.W F.G
	-					
Date Sampled	----------	27/04/2017	27/04/2017	27/04/2017	27/04/2017	27/04/2017
Type of sample		Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste	Treated Solid Waste
pH of soil for fluid# determ.	pH units	10.3	10.8	10.1	10.5	9.7
pH of soil TCLP (after HCl)	pH units	5.7	6.0	6.0	5.5	2.0
Extraction fluid used	-	2	2	2	2	1
pH of final Leachate	pH units	5.6	5.8	5.6	5.6	5.0
Fluoride, F in leachate	mg/L	250	130	270	220	1.7
Date extracted	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017	04/05/2017	04/05/2017
Naphthalene in TCLP	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	0.002	0.004	0.001	0.002	<0.001
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	0.001	0.007	0.004	0.012	<0.001
Anthracene in TCLP	mg/L	<0.001	0.001	0.001	0.004	<0.001
Fluoranthene in TCLP	mg/L	0.001	0.004	0.004	0.011	<0.001
Pyrene in TCLP	mg/L	<0.001	0.003	0.003	0.008	<0.001
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	0.0060	0.019	0.014	0.038	NIL (+)VE
Surrogate p-Terphenyl-d14	%	106	114	117	100	109

PAHs in TCLP (USEPA 1311) Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ----------	162119-F-26 B.W R.O.S 27/04/2017 Treated Solid Waste	162119-F-27 ERERING R.O.S 27/04/2017 Treated Solid Waste	162119-F-28 ERARING F.G 27/04/2017 Treated Solid Waste
pH of soil for fluid# determ.	pH units	11.4	9.8	11.8
pH of soil TCLP (after HCl)	pH units	2.0	2.0	2.0
Extraction fluid used	-	1	1	1
pH of final Leachate	pH units	5.3	5.1	5.3
Fluoride, F in leachate	mg/L	0.9	1.0	1.3
Date extracted	-	04/05/2017	04/05/2017	04/05/2017
Date analysed	-	04/05/2017	04/05/2017	04/05/2017
Naphthalene in TCLP	mg/L	<0.001	<0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	<0.001	<0.001
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	<0.001	<0.001	<0.001
Anthracene in TCLP	mg/L	<0.001	<0.001	<0.001
Fluoranthene in TCLP	mg/L	<0.001	<0.001	<0.001
Pyrene in TCLP	mg/L	<0.001	<0.001	<0.001
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	92	116	122

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.

Method ID	Methodology Summary
Inorg-014	Cyanide - free, total, weak acid dissociable by segmented flow analyser (in line dialysis with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically.
Inorg-026/53	Fluoride by caustic fusion and determined by ion selective electrode (ISE) analysis.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using in house method INORG-004.
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction (zHE) using AS4439 and USEPA 1311.
Inorg-026	Fluoride determined by ion selective electrode (ISE) in accordance with APHA latest edition, 4500-F-C.
Org-012	Leachates are extracted with Dichloromethane and analysed by GC-MS.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank
Date extracted	-			2/05/2017
Date analysed	-			4/05/2017
$TRHC_6$ - C_9	mg/kg	25	Org-016	<25
$TRHC_6$ - C_{10}	mg/kg	25	Org-016	<25
Benzene	mg/kg	0.2	Org-016	<0.2
Toluene	mg/kg	0.5	Org-016	<0.5
Ethylbenzene	mg/kg	1	Org-016	<1
m+p-xylene	mg/kg	2	Org-016	<2
o-Xylene	mg/kg	1	Org-016	<1
naphthalene	mg/kg	1	Org-014	<1
Surrogate aaa-Trifluorotoluene	%		Org-016	102

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			02/05/2017	162119-F-3	02/05/2017 || 02/05/2017
Date analysed	-			03/05/2017	162119-F-3	03/05/2017 || 03/05/2017
$TRHC_{10}$ - C_{14}	mg/kg	50	Org-003	<50	162119-F-3	<50 || <50
$TRHC_{15}$ - C_{28}	mg/kg	100	Org-003	<100	162119-F-3	680 || 630 || RPD: 8
$TRHC_{29}$ - C_{36}	mg/kg	100	Org-003	<100	162119-F-3	940 || 880 || RPD: 7
$TRH>C_{10}$-C_{16}	mg/kg	50	Org-003	<50	162119-F-3	<50 || <50
$TRH>C_{16}$-C_{34}	mg/kg	100	Org-003	<100	162119-F-3	1400 || 1300 || RPD: 7
$TRH>C_{34}$-C_{40}	mg/kg	100	Org-003	<100	162119-F-3	580 || 580 || RPD: 0
Surrogate o-Terphenyl	%		Org-003	80	162119-F-3	90 || 89 || RPD: 1

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			2/05/2017	162119-F-3	2/05/2017 || 2/05/2017
Date analysed	-			9/05/2017	162119-F-3	9/05/2017 || 9/05/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	162119-F-3	0.6 || 0.8 || RPD: 29
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	162119-F-3	<0.1 || <0.1
Acenaphthene	mg/kg	0.1	Org-012	<0.1	162119-F-3	4.8 || 4.3 || RPD: 11
Fluorene	mg/kg	0.1	Org-012	<0.1	162119-F-3	1.8 || 1.5 || RPD: 18
Phenanthrene	mg/kg	0.1	Org-012	<0.1	162119-F-3	13 || 12 || RPD: 8
Anthracene	mg/kg	0.1	Org-012	<0.1	162119-F-3	1.9 || 2.4 || RPD: 23
Fluoranthene	mg/kg	0.1	Org-012	<0.1	162119-F-3	42 || 37 || RPD: 13
Pyrene	mg/kg	0.1	Org-012	<0.1	162119-F-3	39 || 35 || RPD: 11
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	162119-F-3	23 || 19 || RPD: 19
Chrysene	mg/kg	0.1	Org-012	<0.1	162119-F-3	24 || 21 || RPD: 13
Benzo(b,j+k) fluoranthene	mg/kg	0.2	Org-012	<0.2	162119-F-3	44 || 37 || RPD: 17
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	162119-F-3	24 || 20 || RPD: 18

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	162119-F-3	20 || 16 || RPD: 22
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	162119-F-3	2.2 || 1.7 || RPD: 26
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	162119-F-3	18 || 15 || RPD: 18
Surrogate p-Terphenyl-d14	%		Org-012	75	162119-F-3	100 || 101 || RPD: 1
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			02/05/2017	162119-F-3	02/05/2017 || 02/05/2017
Date analysed	-			02/05/2017	162119-F-3	02/05/2017 || 02/05/2017
HCB	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
alpha-BHC	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
gamma-BHC	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
beta-BHC	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Heptachlor	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
delta-BHC	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Aldrin	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Endosulfan I	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
pp-DDE	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Dieldrin	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Endrin	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
pp-DDD	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Endosulfan II	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
pp-DDT	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.1 || <0.1
Methoxychlor	mg/kg	0.1	Org-005	<0.1	162119-F-3	<0.2 || <0.2
Surrogate TCMX	%		Org-005	90	162119-F-3	73 || 74 || RPD: 1

QUALITY CONTROL Organophosphorus Pesticides	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			02/05/2017	162119-F-3	02/05/2017 || 02/05/2017
Date analysed	-			02/05/2017	162119-F-3	02/05/2017 || 02/05/2017
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Diazinon	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Dichlorvos	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Dimethoate	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Ethion	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Fenitrothion	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Malathion	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Parathion	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Ronnel	mg/kg	0.1	Org-008	<0.1	162119-F-3	<0.1 || <0.1
Surrogate TCMX	%		Org-008	90	162119-F-3	73 || 74 || RPD: 1
QUALITY CONTROL SVOCs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			02/05/2017	162119-F-3	02/05/2017 || 02/05/2017
Date analysed	-			03/05/2017	162119-F-3	03/05/2017 || 03/05/2017
Phenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
2-Chlorophenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
2-Methylphenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
3/4-Methylphenol	mg/kg	1	Org-012	<1	162119-F-3	<1 || <1
2,4-Dimethylphenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
2-Nitrophenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
2,4-Dichlorophenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
4-Chloro-3-methylphenol	mg/kg	5	Org-012	<5	162119-F-3	<5 || <5
2,4,6-trichlorophenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
2,4,5-trichlorophenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
2,4-dinitrophenol	mg/kg	10	Org-012	<10	162119-F-3	<10 || <10
4-nitrophenol	mg/kg	10	Org-012	<10	162119-F-3	<10 || <10
diethylphthalate	mg/kg	1	Org-012	<1	162119-F-3	<1 || <1
2-methyl-4,6-dinitrophenol	mg/kg	10	Org-012	<10	162119-F-3	<10 || <10
pentachlorophenol	mg/kg	5	Org-012	<5	162119-F-3	<5 || <5
di-n-butylphthalate	mg/kg	1	Org-012	<1	162119-F-3	<1 || <1
butylbenzylphthalate	mg/kg	1	Org-012	<1	162119-F-3	<1 || <1
bis(2-ethylhexyl) phthalate	mg/kg	1	Org-012	<1	162119-F-3	<1 || <1
di-n-octylphthalate	mg/kg	1	Org-012	<1	162119-F-3	<1 || <1

QUALITY CONTROL SVOCs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
2,6-dichlorophenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
2,3,4,6-tetrachlorophenol	mg/kg	0.5	Org-012	<0.5	162119-F-3	<0.5 || <0.5
Surrogate 2-fluorophenol	%		Org-012	89	162119-F-3	38 || 45 || RPD: 17
Surrogate Phenol-d_6	%		Org-012	81	162119-F-3	68 || 52 || RPD: 27
Surrogate Nitrobenzene-d_5	%		Org-012	74	162119-F-3	103 || 84 || RPD: 20
Surrogate 2-fluorobiphenyl	%		Org-012	93	162119-F-3	106 || 94 || RPD: 12
Surrogate 2,4,6-Tribromophenol	%		Org-012	80	162119-F-3	33 || #
Surrogate p-Terphenyl-d_{14}	%		Org-012	98	162119-F-3	119 || 121 || RPD: 2

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank
Date extracted	-			2/05/2017
Date analysed	-			4/05/2017
Dichlorodifluoromethane	mg/kg	1	Org-014	<1
Chloromethane	mg/kg	1	Org-014	<1
Vinyl Chloride	mg/kg	1	Org-014	<1
Bromomethane	mg/kg	1	Org-014	<1
Chloroethane	mg/kg	1	Org-014	<1
Trichlorofluoromethane	mg/kg	1	Org-014	<1
1,1-Dichloroethene	mg/kg	1	Org-014	<1
trans-1,2-dichloroethene	mg/kg	1	Org-014	<1
1,1-dichloroethane	mg/kg	1	Org-014	<1
cis-1,2-dichloroethene	mg/kg	1	Org-014	<1
bromochloromethane	mg/kg	1	Org-014	<1
chloroform	mg/kg	1	Org-014	<1
2,2-dichloropropane	mg/kg	1	Org-014	<1
1,2-dichloroethane	mg/kg	1	Org-014	<1
1,1,1-trichloroethane	mg/kg	1	Org-014	<1
1,1-dichloropropene	mg/kg	1	Org-014	<1
Cyclohexane	mg/kg	1	Org-014	<1
carbon tetrachloride	mg/kg	1	Org-014	<1
Benzene	mg/kg	0.2	Org-014	<0.2
dibromomethane	mg/kg	1	Org-014	<1
1,2-dichloropropane	mg/kg	1	Org-014	<1
trichloroethene	mg/kg	1	Org-014	<1
bromodichloromethane	mg/kg	1	Org-014	<1
trans-1,3-dichloropropene	mg/kg	1	Org-014	<1
cis-1,3-dichloropropene	mg/kg	1	Org-014	<1
1,1,2-trichloroethane	mg/kg	1	Org-014	<1
Toluene	mg/kg	0.5	Org-014	<0.5
1,3-dichloropropane	mg/kg	1	Org-014	<1

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank
dibromochloromethane	mg/kg	1	Org-014	<1
1,2-dibromoethane	mg/kg	1	Org-014	<1
tetrachloroethene	mg/kg	1	Org-014	<1
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	<1
chlorobenzene	mg/kg	1	Org-014	<1
Ethylbenzene	mg/kg	1	Org-014	<1
bromoform	mg/kg	1	Org-014	<1
m+p-xylene	mg/kg	2	Org-014	<2
styrene	mg/kg	1	Org-014	<1
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	<1
o-Xylene	mg/kg	1	Org-014	<1
1,2,3-trichloropropane	mg/kg	1	Org-014	<1
isopropylbenzene	mg/kg	1	Org-014	<1
bromobenzene	mg/kg	1	Org-014	<1
n-propyl benzene	mg/kg	1	Org-014	<1
2-chlorotoluene	mg/kg	1	Org-014	<1
4-chlorotoluene	mg/kg	1	Org-014	<1
1,3,5-trimethyl benzene	mg/kg	1	Org-014	<1
tert-butyl benzene	mg/kg	1	Org-014	<1
1,2,4-trimethyl benzene	mg/kg	1	Org-014	<1
1,3-dichlorobenzene	mg/kg	1	Org-014	<1
sec-butyl benzene	mg/kg	1	Org-014	<1
1,4-dichlorobenzene	mg/kg	1	Org-014	<1
4-isopropyl toluene	mg/kg	1	Org-014	<1
1,2-dichlorobenzene	mg/kg	1	Org-014	<1
n-butyl benzene	mg/kg	1	Org-014	<1
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	<1
1,2,4-trichlorobenzene	mg/kg	1	Org-014	<1
hexachlorobutadiene	mg/kg	1	Org-014	<1
1,2,3-trichlorobenzene	mg/kg	1	Org-014	<1
Surrogate Dibromofluorometha	%		Org-014	130
Surrogate aaa-Trifluorotoluene	%		Org-014	102
Surrogate Toluene-d_8	%		Org-014	93
Surrogate 4-Bromofluorobenzene	%		Org-014	88

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank
Date prepared	-			02/05/2017
Date analysed	-			04/05/2017
Arsenic	mg/kg	4	Metals-020	<4
Cadmium	mg/kg	0.4	Metals-020	<0.4
Copper	mg/kg	1	Metals-020	<1
Lead	mg/kg	1	Metals-020	<1
Mercury	mg/kg	0.1	Metals-021	<0.1
Molybdenum	mg/kg	1	Metals-020	<1
Nickel	mg/kg	1	Metals-020	<1
Selenium	mg/kg	2	Metals-020	<2
Silver	mg/kg	1	Metals-020	<1
Tin	mg/kg	1	Metals-020	<1
Zinc	mg/kg	1	Metals-020	<1

QUALITY CONTROL Misc Soil - Inorg	UNITS	PQL	METHOD	Blank
Date prepared	-			03/05/2017
Date analysed	-			03/05/2017
Free Cyanide in soil	mg/kg	0.5	Inorg-014	<0.5
Total Cyanide	mg/kg	0.5	Inorg-014	<0.5

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	PQL	METHOD	Blank
Date prepared	-			05/05/2017
Date analysed	-			05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	<1
Total Fluoride	mg/kg	50	Inorg-026/53	<50

QUALITY CONTROL TCLP - ASLP4439.3	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			04/05/2017	[NT]	[NT]		04/05/2017
Date analysed	-			04/05/2017	[NT]	[NT]		04/05/2017
Total Cyanide in Leachate	mg/L	0.004	Inorg-014	<0.004	[NT]	[NT]		106%

QUALITY CONTROL PAHs in TCLP (USEPA 1311)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Fluoride, F in leachate	mg/L	0.1	Inorg-026	<0.1	[NT]	[NT]	LCS-W2	99%
Date extracted	-			04/05/2017	[NT]	[NT]	LCS-W2	04/05/2017
Date analysed	-			04/05/2017	[NT]	[NT]	LCS-W2	04/05/2017
Naphthalene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	LCS-W2	76%
Acenaphthylene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NR]	[NR]
Acenaphthene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NR]	[NR]
Fluorene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	LCS-W2	95%
Phenanthrene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	LCS-W2	107%
Anthracene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NR]	[NR]
Fluoranthene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	LCS-W2	103%
Pyrene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	LCS-W2	100%
Benzo(a)anthracene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NR]	[NR]
Chrysene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	LCS-W2	95%
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	Org-012	<0.002	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	LCS-W2	113%
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	Org-012	<0.001	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	112	[NT]	[NT]	LCS-W2	99%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-F-13	02/05/2017 || 02/05/2017
Date analysed	-	162119-F-13	03/05/2017 || 03/05/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	162119-F-13	<50 || <50
TRHC$_{15}$ - C$_{28}$	mg/kg	162119-F-13	150 || 180 || RPD: 18
TRHC$_{29}$ - C$_{36}$	mg/kg	162119-F-13	260 || 170 || RPD: 42
TRH>C$_{10}$-C$_{16}$	mg/kg	162119-F-13	<50 || <50
TRH>C$_{16}$-C$_{34}$	mg/kg	162119-F-13	320 || 310 || RPD: 3
TRH>C$_{34}$-C$_{40}$	mg/kg	162119-F-13	220 || 110 || RPD: 67
Surrogate o-Terphenyl	%	162119-F-13	82 || 82 || RPD: 0

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-F-13	2/05/2017 || 2/05/2017
Date analysed	-	162119-F-13	8/05/2017 || 8/05/2017
Naphthalene	mg/kg	162119-F-13	0.4 || 0.8 || RPD: 67
Acenaphthylene	mg/kg	162119-F-13	<0.1 || <0.1
Acenaphthene	mg/kg	162119-F-13	0.7 || 0.8 || RPD: 13
Fluorene	mg/kg	162119-F-13	0.3 || 0.3 || RPD: 0
Phenanthrene	mg/kg	162119-F-13	3.3 || 3.8 || RPD: 14
Anthracene	mg/kg	162119-F-13	0.4 || 0.7 || RPD: 55
Fluoranthene	mg/kg	162119-F-13	13 || 17 || RPD: 27
Pyrene	mg/kg	162119-F-13	12 || 17 || RPD: 34
Benzo(a)anthracene	mg/kg	162119-F-13	12 || 20 || RPD: 50
Chrysene	mg/kg	162119-F-13	9.8 || 16 || RPD: 48
Benzo(b,j+k)fluoranthene	mg/kg	162119-F-13	22 || 37 || RPD: 51
Benzo(a)pyrene	mg/kg	162119-F-13	8.5 || 12 || RPD: 34
Indeno(1,2,3-c,d)pyrene	mg/kg	162119-F-13	5.8 || 7.8 || RPD: 29
Dibenzo(a,h)anthracene	mg/kg	162119-F-13	1.3 || 1.9 || RPD: 37
Benzo(g,h,i)perylene	mg/kg	162119-F-13	3.2 || 4.3 || RPD: 29
Surrogate p-Terphenyl-d14	%	162119-F-13	93 || 98 || RPD: 5

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-F-13	02/05/2017 || 02/05/2017
Date analysed	-	162119-F-13	02/05/2017 || 02/05/2017
HCB	mg/kg	162119-F-13	<0.1 || <0.1
alpha-BHC	mg/kg	162119-F-13	<0.1 || <0.1
gamma-BHC	mg/kg	162119-F-13	<0.1 || <0.1
beta-BHC	mg/kg	162119-F-13	<0.1 || <0.1
Heptachlor	mg/kg	162119-F-13	<0.1 || <0.1
delta-BHC	mg/kg	162119-F-13	<0.1 || <0.1
Aldrin	mg/kg	162119-F-13	<0.1 || <0.1
Heptachlor Epoxide	mg/kg	162119-F-13	<0.1 || <0.1
gamma-Chlordane	mg/kg	162119-F-13	<0.1 || <0.1
alpha-chlordane	mg/kg	162119-F-13	<0.1 || <0.1
Endosulfan I	mg/kg	162119-F-13	<0.1 || <0.1
pp-DDE	mg/kg	162119-F-13	<0.1 || <0.1
Dieldrin	mg/kg	162119-F-13	<0.1 || <0.1
Endrin	mg/kg	162119-F-13	<0.1 || <0.1
pp-DDD	mg/kg	162119-F-13	<0.1 || <0.1
Endosulfan II	mg/kg	162119-F-13	<0.1 || <0.1
pp-DDT	mg/kg	162119-F-13	<0.1 || <0.1
Endrin Aldehyde	mg/kg	162119-F-13	<0.1 || <0.1
Endosulfan Sulphate	mg/kg	162119-F-13	<0.1 || <0.1

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Methoxychlor	mg/kg	162119-F-13	<0.3 || <0.1
Surrogate TCMX	%	162119-F-13	75 || 84 || RPD: 11
QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-F-13	02/05/2017 || 02/05/2017
Date analysed	-	162119-F-13	02/05/2017 || 02/05/2017
Azinphos-methyl (Guthion)	mg/kg	162119-F-13	<0.1 || <0.1
Bromophos-ethyl	mg/kg	162119-F-13	<0.1 || <0.1
Chlorpyriphos	mg/kg	162119-F-13	<0.1 || <0.1
Chlorpyriphos-methyl	mg/kg	162119-F-13	<0.1 || <0.1
Diazinon	mg/kg	162119-F-13	<0.1 || <0.1
Dichlorvos	mg/kg	162119-F-13	<0.1 || <0.1
Dimethoate	mg/kg	162119-F-13	<0.1 || <0.1
Ethion	mg/kg	162119-F-13	<0.1 || <0.1
Fenitrothion	mg/kg	162119-F-13	<0.1 || <0.1
Malathion	mg/kg	162119-F-13	<0.1 || <0.1
Parathion	mg/kg	162119-F-13	<0.1 || <0.1
Ronnel	mg/kg	162119-F-13	<0.1 || <0.1
Surrogate TCMX	%	162119-F-13	75 || 84 || RPD: 11
QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-F-13	02/05/2017 || 02/05/2017
Date analysed	-	162119-F-13	03/05/2017 || 03/05/2017
Phenol	mg/kg	162119-F-13	<0.5 || <0.5
2-Chlorophenol	mg/kg	162119-F-13	<0.5 || <0.5
2-Methylphenol	mg/kg	162119-F-13	<0.5 || <0.5
3/4-Methylphenol	mg/kg	162119-F-13	<1 || <1
2,4-Dimethylphenol	mg/kg	162119-F-13	<0.5 || <0.5
2-Nitrophenol	mg/kg	162119-F-13	<0.5 || <0.5
2,4-Dichlorophenol	mg/kg	162119-F-13	<0.5 || <0.5
4-Chloro-3-methylphenol	mg/kg	162119-F-13	<5 || <5
2,4,6-trichlorophenol	mg/kg	162119-F-13	<0.5 || <0.5
2,4,5-trichlorophenol	mg/kg	162119-F-13	<0.5 || <0.5
2,4-dinitrophenol	mg/kg	162119-F-13	<10 || <10
4-nitrophenol	mg/kg	162119-F-13	<10 || <10
diethylphthalate	mg/kg	162119-F-13	<1 || <1
2-methyl-4,6-dinitrophenol	mg/kg	162119-F-13	<10 || <10
pentachlorophenol	mg/kg	162119-F-13	<5 || <5
di-n-butylphthalate	mg/kg	162119-F-13	<1 || <1
butylbenzylphthalate	mg/kg	162119-F-13	<1 || <1

QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
bis(2-ethylhexyl)phthalate	mg/kg	162119-F-13	<1 || <1
di-n-octylphthalate	mg/kg	162119-F-13	<1 || <1
2,6-dichlorophenol	mg/kg	162119-F-13	<0.5 || <0.5
2,3,4,6-tetrachlorophenol	mg/kg	162119-F-13	<0.5 || <0.5
Surrogate 2-fluorophenol	%	162119-F-13	# || 20
Surrogate Phenol-d_6	%	162119-F-13	# || 20
Surrogate Nitrobenzene-d_5	%	162119-F-13	46 || 57 || RPD: 21
Surrogate 2-fluorobiphenyl	%	162119-F-13	93 || 93 || RPD: 0
Surrogate 2,4,6-Tribromophenol	%	162119-F-13	# || #
Surrogate p-Terphenyl-d_{14}	%	162119-F-13	106 || 112 || RPD: 6

QUALITY CONTROL TCLP - ASLP4439.3	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]		04/05/2017
Date analysed	-	[NT]	[NT]		04/05/2017
Total Cyanide in Leachate	mg/L	[NT]	[NT]		105%
QUALITY CONTROL PAHs in TCLP (USEPA 1311)	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Fluoride, F in leachate	mg/L	[NT]	[NT]	LCS-W3	101%
Date extracted	-	[NT]	[NT]	LCS-W3	04/05/2017
Date analysed	-	[NT]	[NT]	LCS-W3	04/05/2017
Naphthalene in TCLP	mg/L	[NT]	[NT]	LCS-W3	78%
Acenaphthylene in TCLP	mg/L	[NT]	[NT]	[NR]	[NR]
Acenaphthene in TCLP	mg/L	[NT]	[NT]	[NR]	[NR]
Fluorene in TCLP	mg/L	[NT]	[NT]	LCS-W3	79%
Phenanthrene in TCLP	mg/L	[NT]	[NT]	LCS-W3	90%
Anthracene in TCLP	mg/L	[NT]	[NT]	[NR]	[NR]
Fluoranthene in TCLP	mg/L	[NT]	[NT]	LCS-W3	86%
Pyrene in TCLP	mg/L	[NT]	[NT]	LCS-W3	85%
Benzo(a)anthracene in TCLP	mg/L	[NT]	[NT]	[NR]	[NR]
Chrysene in TCLP	mg/L	[NT]	[NT]	LCS-W3	84%
Benzo(bjk)fluoranthene in TCLP	mg/L	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene in TCLP	mg/L	[NT]	[NT]	LCS-W3	94%
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene in TCLP	mg/L	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene in TCLP	mg/L	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	LCS-W3	92%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	162119-F-23	02/05/2017 || 02/05/2017	162119-F-8	02/05/2017
Date analysed	-	162119-F-23	03/05/2017 || 03/05/2017	162119-F-8	03/05/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	162119-F-23	<50 || <50	162119-F-8	#
TRHC$_{15}$ - C$_{28}$	mg/kg	162119-F-23	2800 || 2800 || RPD: 0	162119-F-8	#
TRHC$_{29}$ - C$_{36}$	mg/kg	162119-F-23	3400 || 3300 || RPD: 3	162119-F-8	#
TRH>C$_{10}$-C$_{16}$	mg/kg	162119-F-23	<50 || <50	162119-F-8	#
TRH>C$_{16}$-C$_{34}$	mg/kg	162119-F-23	5500 || 5300 || RPD: 4	162119-F-8	#
TRH>C$_{34}$-C$_{40}$	mg/kg	162119-F-23	1800 || 1700 || RPD: 6	162119-F-8	#
Surrogate o-Terphenyl	%	162119-F-23	83 || 83 || RPD: 0	162119-F-8	120%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	162119-F-23	2/05/2017 || 2/05/2017	162119-F-8	2/05/2017
Date analysed	-	162119-F-23	9/05/2017 || 9/05/2017	162119-F-8	8/05/2017
Naphthalene	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	97%
Acenaphthylene	mg/kg	162119-F-23	0.2 || 0.2 || RPD: 0	[NR]	[NR]
Acenaphthene	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	162119-F-23	5.3 || <0.1	162119-F-8	79%
Phenanthrene	mg/kg	162119-F-23	53 || 52 || RPD: 2	162119-F-8	#
Anthracene	mg/kg	162119-F-23	3.7 || 4.9 || RPD: 28	[NR]	[NR]
Fluoranthene	mg/kg	162119-F-23	200 || 210 || RPD: 5	162119-F-8	#
Pyrene	mg/kg	162119-F-23	190 || 200 || RPD: 5	162119-F-8	#
Benzo(a)anthracene	mg/kg	162119-F-23	180 || 170 || RPD: 6	[NR]	[NR]
Chrysene	mg/kg	162119-F-23	170 || 180 || RPD: 6	162119-F-8	#
Benzo(b,j+k)fluoranthene	mg/kg	162119-F-23	300 || 340 || RPD: 12	[NR]	[NR]
Benzo(a)pyrene	mg/kg	162119-F-23	170 || 190 || RPD: 11	162119-F-8	#
Indeno(1,2,3-c,d)pyrene	mg/kg	162119-F-23	130 || 140 || RPD: 7	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	162119-F-23	110 || 120 || RPD: 9	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	162119-F-23	106 || 101 || RPD: 5	162119-F-8	77%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	162119-F-23	02/05/2017 || 02/05/2017	162119-F-8	02/05/2017
Date analysed	-	162119-F-23	02/05/2017 || 02/05/2017	162119-F-8	02/05/2017
HCB	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
alpha-BHC	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	76%
gamma-BHC	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
beta-BHC	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	68%
Heptachlor	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	80%
delta-BHC	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
Aldrin	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	87%
Heptachlor Epoxide	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	73%
gamma-Chlordane	mg/kg	162119-F-23	<0.1 || <0.2	[NR]	[NR]
alpha-chlordane	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
Endosulfan I	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
pp-DDE	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	76%
Dieldrin	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	84%
Endrin	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	72%
pp-DDD	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	89%
Endosulfan II	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
pp-DDT	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	162119-F-23	<0.1 || <0.1	162119-F-8	86%
Methoxychlor	mg/kg	162119-F-23	<0.1 || <0.1	[NR]	[NR]
Surrogate TCMX	%	162119-F-23	79 || 69 || RPD: 14	162119-F-8	89%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-F-23	02/05/2017 || 02/05/2017
Date analysed	-	162119-F-23	02/05/2017 || 02/05/2017
Azinphos-methyl (Guthion)	mg/kg	162119-F-23	<0.1 || <0.1
Bromophos-ethyl	mg/kg	162119-F-23	<0.1 || <0.1
Chlorpyriphos	mg/kg	162119-F-23	<0.1 || <0.1
Chlorpyriphos-methyl	mg/kg	162119-F-23	<0.1 || <0.1
Diazinon	mg/kg	162119-F-23	<0.1 || <0.1
Dichlorvos	mg/kg	162119-F-23	<0.1 || <0.1
Dimethoate	mg/kg	162119-F-23	<0.1 || <0.1
Ethion	mg/kg	162119-F-23	<0.1 || <0.1
Fenitrothion	mg/kg	162119-F-23	<0.1 || <0.1
Malathion	mg/kg	162119-F-23	<0.1 || <0.1
Parathion	mg/kg	162119-F-23	<0.1 || <0.1
Ronnel	mg/kg	162119-F-23	<0.1 || <0.1
Surrogate TCMX	%	162119-F-23	79 || 69 || RPD: 14

QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-F-23	02/05/2017 || 02/05/2017
Date analysed	-	162119-F-23	03/05/2017 || 03/05/2017
Phenol	mg/kg	162119-F-23	<0.5 || <0.5
2-Chlorophenol	mg/kg	162119-F-23	<0.5 || <0.5
2-Methylphenol	mg/kg	162119-F-23	<0.5 || <0.5
3/4-Methylphenol	mg/kg	162119-F-23	<1 || <1
2,4-Dimethylphenol	mg/kg	162119-F-23	<0.5 || <0.5
2-Nitrophenol	mg/kg	162119-F-23	<0.5 || <0.5
2,4-Dichlorophenol	mg/kg	162119-F-23	<0.5 || <0.5
4-Chloro-3-methylphenol	mg/kg	162119-F-23	<5 || <5
2,4,6-trichlorophenol	mg/kg	162119-F-23	<0.5 || <0.5
2,4,5-trichlorophenol	mg/kg	162119-F-23	<0.5 || <0.5
2,4-dinitrophenol	mg/kg	162119-F-23	<10 || <10
4-nitrophenol	mg/kg	162119-F-23	<10 || <10
diethylphthalate	mg/kg	162119-F-23	<1 || <1
2-methyl-4,6-dinitrophenol	mg/kg	162119-F-23	<10 || <10
pentachlorophenol	mg/kg	162119-F-23	<5 || <5
di-n-butylphthalate	mg/kg	162119-F-23	<1 || <1
butylbenzylphthalate	mg/kg	162119-F-23	<1 || <1
bis(2-ethylhexyl)phthalate	mg/kg	162119-F-23	<1 || <1
di-n-octylphthalate	mg/kg	162119-F-23	<1 || <1
2,6-dichlorophenol	mg/kg	162119-F-23	<0.5 || <0.5
2,3,4,6-tetrachlorophenol	mg/kg	162119-F-23	<0.5 || <0.5
Surrogate 2-fluorophenol	%	162119-F-23	79 || 55 || RPD: 36

QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Surrogate Phenol-d_6	%	162119-F-23	83 || 68 || RPD: 20
Surrogate Nitrobenzene-d_5	%	162119-F-23	57 || 51 || RPD: 11
Surrogate 2-fluorobiphenyl	%	162119-F-23	95 || 102 || RPD: 7
Surrogate 2,4,6-Tribromophenol	%	162119-F-23	# || #
Surrogate p-Terphenyl-d_{14}	%	162119-F-23	124 || 129 || RPD: 4

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-F-1	2/05/2017 || 2/05/2017
Date analysed	-	162119-F-1	4/05/2017 || 4/05/2017
TRHC_6 - C_9	mg/kg	162119-F-1	<25 || <25
TRHC_6 - C_{10}	mg/kg	162119-F-1	<25 || <25
Benzene	mg/kg	162119-F-1	<0.2 || <0.2
Toluene	mg/kg	162119-F-1	<0.5 || <0.5
Ethylbenzene	mg/kg	162119-F-1	<1 || <1
m+p-xylene	mg/kg	162119-F-1	<2 || <2
o-Xylene	mg/kg	162119-F-1	<1 || <1
naphthalene	mg/kg	162119-F-1	<1 || <1
Surrogate aaa-Trifluorotoluene	%	162119-F-1	106 || 99 || RPD: 7

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-26	02/05/2017
Date analysed	-	[NT]	[NT]	162119-F-26	03/05/2017
TRHC_{10} - C_{14}	mg/kg	[NT]	[NT]	162119-F-26	91%
TRHC_{15} - C_{28}	mg/kg	[NT]	[NT]	162119-F-26	83%
TRHC_{29} - C_{36}	mg/kg	[NT]	[NT]	162119-F-26	91%
TRH>C_{10}-C_{16}	mg/kg	[NT]	[NT]	162119-F-26	91%
TRH>C_{16}-C_{34}	mg/kg	[NT]	[NT]	162119-F-26	83%
TRH>C_{34}-C_{40}	mg/kg	[NT]	[NT]	162119-F-26	91%
Surrogate o-Terphenyl	%	[NT]	[NT]	162119-F-26	71%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-26	2/05/2017
Date analysed	-	[NT]	[NT]	162119-F-26	8/05/2017
Naphthalene	mg/kg	[NT]	[NT]	162119-F-26	84%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	162119-F-26	73%
Phenanthrene	mg/kg	[NT]	[NT]	162119-F-26	#
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	162119-F-26	#
Pyrene	mg/kg	[NT]	[NT]	162119-F-26	#
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	162119-F-26	#
Benzo(b,j+k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	162119-F-26	#
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	162119-F-26	#

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-26	02/05/2017
Date analysed	-	[NT]	[NT]	162119-F-26	02/05/2017
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	162119-F-26	82%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	162119-F-26	78%
Heptachlor	mg/kg	[NT]	[NT]	162119-F-26	89%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	162119-F-26	79%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	162119-F-26	91%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	162119-F-26	100%
Dieldrin	mg/kg	[NT]	[NT]	162119-F-26	96%
Endrin	mg/kg	[NT]	[NT]	162119-F-26	84%
pp-DDD	mg/kg	[NT]	[NT]	162119-F-26	106%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	162119-F-26	68%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	162119-F-26	80%

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-F-1	2/05/2017 || 2/05/2017
Date analysed	-	162119-F-1	4/05/2017 || 4/05/2017
Dichlorodifluoromethane	mg/kg	162119-F-1	<1 || <1
Chloromethane	mg/kg	162119-F-1	<1 || <1
Vinyl Chloride	mg/kg	162119-F-1	<1 || <1
Bromomethane	mg/kg	162119-F-1	<1 || <1
Chloroethane	mg/kg	162119-F-1	<1 || <1
Trichlorofluoromethane	mg/kg	162119-F-1	<1 || <1
1,1-Dichloroethene	mg/kg	162119-F-1	<1 || <1
trans-1,2-dichloroethene	mg/kg	162119-F-1	<1 || <1
1,1-dichloroethane	mg/kg	162119-F-1	<1 || <1
cis-1,2-dichloroethene	mg/kg	162119-F-1	<1 || <1
bromochloromethane	mg/kg	162119-F-1	<1 || <1
chloroform	mg/kg	162119-F-1	<1 || <1
2,2-dichloropropane	mg/kg	162119-F-1	<1 || <1
1,2-dichloroethane	mg/kg	162119-F-1	<1 || <1
1,1,1-trichloroethane	mg/kg	162119-F-1	<1 || <1
1,1-dichloropropene	mg/kg	162119-F-1	<1 || <1
Cyclohexane	mg/kg	162119-F-1	<1 || <1
carbon tetrachloride	mg/kg	162119-F-1	<1 || <1
Benzene	mg/kg	162119-F-1	<0.2 || <0.2
dibromomethane	mg/kg	162119-F-1	<1 || <1
1,2-dichloropropane	mg/kg	162119-F-1	<1 || <1
trichloroethene	mg/kg	162119-F-1	<1 || <1
bromodichloromethane	mg/kg	162119-F-1	<1 || <1
trans-1,3-dichloropropene	mg/kg	162119-F-1	<1 || <1
cis-1,3-dichloropropene	mg/kg	162119-F-1	<1 || <1
1,1,2-trichloroethane	mg/kg	162119-F-1	<1 || <1
Toluene	mg/kg	162119-F-1	<0.5 || <0.5
1,3-dichloropropane	mg/kg	162119-F-1	<1 || <1
dibromochloromethane	mg/kg	162119-F-1	<1 || <1
1,2-dibromoethane	mg/kg	162119-F-1	<1 || <1
tetrachloroethene	mg/kg	162119-F-1	<1 || <1
1,1,1,2-tetrachloroethane	mg/kg	162119-F-1	<1 || <1
chlorobenzene	mg/kg	162119-F-1	<1 || <1
Ethylbenzene	mg/kg	162119-F-1	<1 || <1
bromoform	mg/kg	162119-F-1	<1 || <1

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
m+p-xylene	mg/kg	162119-F-1	<2 || <2
styrene	mg/kg	162119-F-1	<1 || <1
1,1,2,2-tetrachloroethane	mg/kg	162119-F-1	<1 || <1
o-Xylene	mg/kg	162119-F-1	<1 || <1
1,2,3-trichloropropane	mg/kg	162119-F-1	<1 || <1
isopropylbenzene	mg/kg	162119-F-1	<1 || <1
bromobenzene	mg/kg	162119-F-1	<1 || <1
n-propyl benzene	mg/kg	162119-F-1	<1 || <1
2-chlorotoluene	mg/kg	162119-F-1	<1 || <1
4-chlorotoluene	mg/kg	162119-F-1	<1 || <1
1,3,5-trimethyl benzene	mg/kg	162119-F-1	<1 || <1
tert-butyl benzene	mg/kg	162119-F-1	<1 || <1
1,2,4-trimethyl benzene	mg/kg	162119-F-1	<1 || <1
1,3-dichlorobenzene	mg/kg	162119-F-1	<1 || <1
sec-butyl benzene	mg/kg	162119-F-1	<1 || <1
1,4-dichlorobenzene	mg/kg	162119-F-1	<1 || <1
4-isopropyl toluene	mg/kg	162119-F-1	<1 || <1
1,2-dichlorobenzene	mg/kg	162119-F-1	<1 || <1
n-butyl benzene	mg/kg	162119-F-1	<1 || <1
1,2-dibromo-3-chloropropane	mg/kg	162119-F-1	<1 || <1
1,2,4-trichlorobenzene	mg/kg	162119-F-1	<1 || <1
hexachlorobutadiene	mg/kg	162119-F-1	<1 || <1
1,2,3-trichlorobenzene	mg/kg	162119-F-1	<1 || <1
Surrogate Dibromofluorometha	%	162119-F-1	128 || 129 || RPD: 1
Surrogate aaa-Trifluorotoluene	%	162119-F-1	106 || 99 || RPD: 7
Surrogate Toluene-d_8	%	162119-F-1	93 || 93 || RPD: 0
Surrogate 4-Bromofluorobenzene	%	162119-F-1	88 || 87 || RPD: 1

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	162119-F-1	05/05/2017 || 05/05/2017
Date analysed	-	162119-F-1	05/05/2017 || 05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	162119-F-1	<1 || <1
Total Fluoride	mg/kg	162119-F-1	17000 || 17000 || RPD: 0

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	162119-F-11	2/05/2017 || 2/05/2017	LCS-9	2/05/2017
Date analysed	-	162119-F-11	4/05/2017 || 4/05/2017	LCS-9	4/05/2017
$TRHC_6$ - C_9	mg/kg	162119-F-11	<25 || <25	LCS-9	75%
$TRHC_6$ - C_{10}	mg/kg	162119-F-11	<25 || <25	LCS-9	75%
Benzene	mg/kg	162119-F-11	<0.2 || <0.2	LCS-9	78%
Toluene	mg/kg	162119-F-11	<0.5 || <0.5	LCS-9	73%
Ethylbenzene	mg/kg	162119-F-11	<1 || <1	LCS-9	70%
m+p-xylene	mg/kg	162119-F-11	<2 || <2	LCS-9	76%
o-Xylene	mg/kg	162119-F-11	<1 || <1	LCS-9	70%
naphthalene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	162119-F-11	103 || 98 || RPD: 5	LCS-9	103%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-9	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-9	03/05/2017
$TRHC_{10}$ - C_{14}	mg/kg	[NT]	[NT]	LCS-9	110%
$TRHC_{15}$ - C_{28}	mg/kg	[NT]	[NT]	LCS-9	110%
$TRHC_{29}$ - C_{36}	mg/kg	[NT]	[NT]	LCS-9	106%
$TRH>C_{10}$-C_{16}	mg/kg	[NT]	[NT]	LCS-9	110%
$TRH>C_{16}$-C_{34}	mg/kg	[NT]	[NT]	LCS-9	110%
$TRH>C_{34}$-C_{40}	mg/kg	[NT]	[NT]	LCS-9	106%
Surrogate o-Terphenyl	%	[NT]	[NT]	LCS-9	92%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-9	2/05/2017
Date analysed	-	[NT]	[NT]	LCS-9	8/05/2017
Naphthalene	mg/kg	[NT]	[NT]	LCS-9	98%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	LCS-9	92%
Phenanthrene	mg/kg	[NT]	[NT]	LCS-9	103%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	LCS-9	91%
Pyrene	mg/kg	[NT]	[NT]	LCS-9	89%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	LCS-9	86%
Benzo(b,j+k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	LCS-9	103%
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	LCS-9	63%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-9	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-9	02/05/2017
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	LCS-9	76%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	LCS-9	90%
Heptachlor	mg/kg	[NT]	[NT]	LCS-9	87%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	LCS-9	83%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	LCS-9	90%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	LCS-9	107%
Dieldrin	mg/kg	[NT]	[NT]	LCS-9	93%
Endrin	mg/kg	[NT]	[NT]	LCS-9	83%
pp-DDD	mg/kg	[NT]	[NT]	LCS-9	109%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	LCS-9	86%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	LCS-9	95%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-9	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-9	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	[NT]	[NT]	LCS-9	85%
Chlorpyriphos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	[NT]	[NT]	LCS-9	89%
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	LCS-9	109%
Fenitrothion	mg/kg	[NT]	[NT]	LCS-9	77%
Malathion	mg/kg	[NT]	[NT]	LCS-9	77%
Parathion	mg/kg	[NT]	[NT]	LCS-9	119%
Ronnel	mg/kg	[NT]	[NT]	LCS-9	94%
Surrogate TCMX	%	[NT]	[NT]	LCS-9	81%

QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-9	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-9	03/05/2017
Phenol	mg/kg	[NT]	[NT]	LCS-9	58%
2-Chlorophenol	mg/kg	[NT]	[NT]	LCS-9	83%
2-Methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
3/4-Methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-Dimethylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2-Nitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-Dichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
4-Chloro-3-methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4,6-trichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4,5-trichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-dinitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
4-nitrophenol	mg/kg	[NT]	[NT]	LCS-9	82%
diethylphthalate	mg/kg	[NT]	[NT]	LCS-9	88%
2-methyl-4,6-dinitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
pentachlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
di-n-butylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
butylbenzylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
bis(2-ethylhexyl)phthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
di-n-octylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
2,6-dichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,3,4,6-tetrachlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate 2-fluorophenol	%	[NT]	[NT]	LCS-9	91%

QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Surrogate Phenol-d_6	%	[NT]	[NT]	LCS-9	40%
Surrogate Nitrobenzene-d_5	%	[NT]	[NT]	LCS-9	76%
Surrogate 2-fluorobiphenyl	%	[NT]	[NT]	LCS-9	96%
Surrogate 2,4,6-Tribromophenol	%	[NT]	[NT]	LCS-9	78%
Surrogate p-Terphenyl-d_{14}	%	[NT]	[NT]	LCS-9	94%
QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	162119-F-11	2/05/2017 || 2/05/2017	LCS-9	2/05/2017
Date analysed	-	162119-F-11	4/05/2017 || 4/05/2017	LCS-9	4/05/2017
Dichlorodifluoromethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Chloromethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Vinyl Chloride	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Bromomethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Chloroethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Trichlorofluoromethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,1-Dichloroethene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,1-dichloroethane	mg/kg	162119-F-11	<1 || <1	LCS-9	122%
cis-1,2-dichloroethene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
bromochloromethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
chloroform	mg/kg	162119-F-11	<1 || <1	LCS-9	126%
2,2-dichloropropane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,2-dichloroethane	mg/kg	162119-F-11	<1 || <1	LCS-9	126%
1,1,1-trichloroethane	mg/kg	162119-F-11	<1 || <1	LCS-9	109%
1,1-dichloropropene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Cyclohexane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
carbon tetrachloride	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Benzene	mg/kg	162119-F-11	<0.2 || <0.2	[NR]	[NR]
dibromomethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,2-dichloropropane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
trichloroethene	mg/kg	162119-F-11	<1 || <1	LCS-9	95%
bromodichloromethane	mg/kg	162119-F-11	<1 || <1	LCS-9	132%
trans-1,3-dichloropropene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Toluene	mg/kg	162119-F-11	<0.5 || <0.5	[NR]	[NR]
1,3-dichloropropane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
dibromochloromethane	mg/kg	162119-F-11	<1 || <1	LCS-9	124%
1,2-dibromoethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
tetrachloroethene	mg/kg	162119-F-11	<1 || <1	LCS-9	109%

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
1,1,1,2-tetrachloroethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
chlorobenzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Ethylbenzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
bromoform	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
m+p-xylene	mg/kg	162119-F-11	<2 || <2	[NR]	[NR]
styrene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
o-Xylene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
isopropylbenzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
bromobenzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
n-propyl benzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
2-chlorotoluene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
4-chlorotoluene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
tert-butyl benzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
sec-butyl benzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
4-isopropyl toluene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
n-butyl benzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
hexachlorobutadiene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	162119-F-11	<1 || <1	[NR]	[NR]
Surrogate Dibromofluorometha	%	162119-F-11	131 || 132 || RPD: 1	LCS-9	126%
Surrogate aaa-Trifluorotoluene	%	162119-F-11	103 || 98 || RPD: 5	LCS-9	103%
Surrogate Toluene-d_8	%	162119-F-11	95 || 95 || RPD: 0	LCS-9	93%
Surrogate 4-Bromofluorobenzene	%	162119-F-11	88 || 89 || RPD: 1	LCS-9	92%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-9	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-9	04/05/2017
Arsenic	mg/kg	[NT]	[NT]	LCS-9	118%
Cadmium	mg/kg	[NT]	[NT]	LCS-9	104%
Copper	mg/kg	[NT]	[NT]	LCS-9	113%
Lead	mg/kg	[NT]	[NT]	LCS-9	105%
Mercury	mg/kg	[NT]	[NT]	LCS-9	106%
Molybdenum	mg/kg	[NT]	[NT]	LCS-9	111%
Nickel	mg/kg	[NT]	[NT]	LCS-9	102%
Selenium	mg/kg	[NT]	[NT]	LCS-9	107%
Silver	mg/kg	[NT]	[NT]	LCS-9	114%
Tin	mg/kg	[NT]	[NT]	LCS-9	100%
Zinc	mg/kg	[NT]	[NT]	LCS-9	103%
QUALITY CONTROL Misc Soil - Inorg	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-9	03/05/2017
Date analysed	-	[NT]	[NT]	LCS-9	03/05/2017
Free Cyanide in soil	mg/kg	[NT]	[NT]	LCS-9	100%
Total Cyanide	mg/kg	[NT]	[NT]	LCS-9	107%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	162119-F-11	05/05/2017 || 05/05/2017	LCS-9	05/05/2017
Date analysed	-	162119-F-11	05/05/2017 || 05/05/2017	LCS-9	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	162119-F-11	<1 || <1	LCS-9	90%
Total Fluoride	mg/kg	162119-F-11	18000 || 26000 || RPD: 36	LCS-9	107%
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	162119-F-21	2/05/2017 || 2/05/2017	LCS-10	2/05/2017
Date analysed	-	162119-F-21	4/05/2017 || 4/05/2017	LCS-10	4/05/2017
$TRHC_6 - C_9$	mg/kg	162119-F-21	<25 || <25	LCS-10	76%
$TRHC_6 - C_{10}$	mg/kg	162119-F-21	<25 || <25	LCS-10	76%
Benzene	mg/kg	162119-F-21	<0.2 || <0.2	LCS-10	79%
Toluene	mg/kg	162119-F-21	<0.5 || <0.5	LCS-10	75%
Ethylbenzene	mg/kg	162119-F-21	<1 || <1	LCS-10	70%
m+p-xylene	mg/kg	162119-F-21	<2 || <2	LCS-10	78%
o-Xylene	mg/kg	162119-F-21	<1 || <1	LCS-10	71%
naphthalene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	162119-F-21	96 || 91 || RPD: 5	LCS-10	105%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-10	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-10	03/05/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	[NT]	[NT]	LCS-10	100%
TRHC$_{15}$ - C$_{28}$	mg/kg	[NT]	[NT]	LCS-10	97%
TRHC$_{29}$ - C$_{36}$	mg/kg	[NT]	[NT]	LCS-10	91%
TRH>C$_{10}$-C$_{16}$	mg/kg	[NT]	[NT]	LCS-10	100%
TRH>C$_{16}$-C$_{34}$	mg/kg	[NT]	[NT]	LCS-10	97%
TRH>C$_{34}$-C$_{40}$	mg/kg	[NT]	[NT]	LCS-10	91%
Surrogate o-Terphenyl	%	[NT]	[NT]	LCS-10	85%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-10	2/05/2017
Date analysed	-	[NT]	[NT]	LCS-10	8/05/2017
Naphthalene	mg/kg	[NT]	[NT]	LCS-10	97%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	LCS-10	118%
Phenanthrene	mg/kg	[NT]	[NT]	LCS-10	108%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	LCS-10	98%
Pyrene	mg/kg	[NT]	[NT]	LCS-10	98%
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	LCS-10	85%
Benzo(b,j+k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	LCS-10	87%
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	LCS-10	62%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-10	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-10	02/05/2017
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	LCS-10	73%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	LCS-10	85%
Heptachlor	mg/kg	[NT]	[NT]	LCS-10	90%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	LCS-10	84%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	LCS-10	93%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	LCS-10	106%
Dieldrin	mg/kg	[NT]	[NT]	LCS-10	98%
Endrin	mg/kg	[NT]	[NT]	LCS-10	89%
pp-DDD	mg/kg	[NT]	[NT]	LCS-10	115%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	LCS-10	86%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	LCS-10	96%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-10	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-10	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	[NT]	[NT]	LCS-10	86%
Chlorpyriphos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	[NT]	[NT]	LCS-10	79%
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	LCS-10	113%
Fenitrothion	mg/kg	[NT]	[NT]	LCS-10	102%
Malathion	mg/kg	[NT]	[NT]	LCS-10	84%
Parathion	mg/kg	[NT]	[NT]	LCS-10	111%
Ronnel	mg/kg	[NT]	[NT]	LCS-10	96%
Surrogate TCMX	%	[NT]	[NT]	LCS-10	95%

QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-10	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-10	03/05/2017
Phenol	mg/kg	[NT]	[NT]	LCS-10	60%
2-Chlorophenol	mg/kg	[NT]	[NT]	LCS-10	82%
2-Methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
3/4-Methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-Dimethylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2-Nitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-Dichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
4-Chloro-3-methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4,6-trichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4,5-trichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-dinitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
4-nitrophenol	mg/kg	[NT]	[NT]	LCS-10	78%
diethylphthalate	mg/kg	[NT]	[NT]	LCS-10	87%
2-methyl-4,6-dinitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
pentachlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
di-n-butylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
butylbenzylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
bis(2-ethylhexyl)phthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
di-n-octylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
2,6-dichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,3,4,6-tetrachlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate 2-fluorophenol	%	[NT]	[NT]	LCS-10	88%

QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Surrogate Phenol-d_6	%	[NT]	[NT]	LCS-10	73%
Surrogate Nitrobenzene-d_5	%	[NT]	[NT]	LCS-10	75%
Surrogate 2-fluorobiphenyl	%	[NT]	[NT]	LCS-10	85%
Surrogate 2,4,6-Tribromophenol	%	[NT]	[NT]	LCS-10	71%
Surrogate p-Terphenyl-d_{14}	%	[NT]	[NT]	LCS-10	87%
QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	162119-F-21	2/05/2017 || 2/05/2017	LCS-10	2/05/2017
Date analysed	-	162119-F-21	4/05/2017 || 4/05/2017	LCS-10	4/05/2017
Dichlorodifluoromethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Chloromethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Vinyl Chloride	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Bromomethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Chloroethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Trichlorofluoromethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,1-Dichloroethene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,1-dichloroethane	mg/kg	162119-F-21	<1 || <1	LCS-10	128%
cis-1,2-dichloroethene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
bromochloromethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
chloroform	mg/kg	162119-F-21	<1 || <1	LCS-10	133%
2,2-dichloropropane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,2-dichloroethane	mg/kg	162119-F-21	<1 || <1	LCS-10	135%
1,1,1-trichloroethane	mg/kg	162119-F-21	<1 || <1	LCS-10	122%
1,1-dichloropropene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Cyclohexane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
carbon tetrachloride	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Benzene	mg/kg	162119-F-21	<0.2 || <0.2	[NR]	[NR]
dibromomethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,2-dichloropropane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
trichloroethene	mg/kg	162119-F-21	<1 || <1	LCS-10	99%
bromodichloromethane	mg/kg	162119-F-21	<1 || <1	LCS-10	138%
trans-1,3-dichloropropene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Toluene	mg/kg	162119-F-21	<0.5 || <0.5	[NR]	[NR]
1,3-dichloropropane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
dibromochloromethane	mg/kg	162119-F-21	<1 || <1	LCS-10	136%
1,2-dibromoethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
tetrachloroethene	mg/kg	162119-F-21	<1 || <1	LCS-10	113%

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
1,1,1,2-tetrachloroethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
chlorobenzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Ethylbenzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
bromoform	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
m+p-xylene	mg/kg	162119-F-21	<2 || <2	[NR]	[NR]
styrene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
o-Xylene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
isopropylbenzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
bromobenzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
n-propyl benzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
2-chlorotoluene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
4-chlorotoluene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
tert-butyl benzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
sec-butyl benzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
4-isopropyl toluene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
n-butyl benzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
hexachlorobutadiene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	162119-F-21	<1 || <1	[NR]	[NR]
Surrogate Dibromofluorometha	%	162119-F-21	130 || 134 || RPD: 3	LCS-10	130%
Surrogate aaa-Trifluorotoluene	%	162119-F-21	96 || 91 || RPD: 5	LCS-10	105%
Surrogate Toluene-d_8	%	162119-F-21	92 || 94 || RPD: 2	LCS-10	95%
Surrogate 4-Bromofluorobenzene	%	162119-F-21	88 || 87 || RPD: 1	LCS-10	93%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-10	02/05/2017
Date analysed	-	[NT]	[NT]	LCS-10	04/05/2017
Arsenic	mg/kg	[NT]	[NT]	LCS-10	115%
Cadmium	mg/kg	[NT]	[NT]	LCS-10	102%
Copper	mg/kg	[NT]	[NT]	LCS-10	110%
Lead	mg/kg	[NT]	[NT]	LCS-10	103%
Mercury	mg/kg	[NT]	[NT]	LCS-10	95%
Molybdenum	mg/kg	[NT]	[NT]	LCS-10	108%
Nickel	mg/kg	[NT]	[NT]	LCS-10	99%
Selenium	mg/kg	[NT]	[NT]	LCS-10	103%
Silver	mg/kg	[NT]	[NT]	LCS-10	110%
Tin	mg/kg	[NT]	[NT]	LCS-10	96%
Zinc	mg/kg	[NT]	[NT]	LCS-10	100%
QUALITY CONTROL Misc Soil - Inorg	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-10	03/05/2017
Date analysed	-	[NT]	[NT]	LCS-10	03/05/2017
Free Cyanide in soil	mg/kg	[NT]	[NT]	LCS-10	101%
Total Cyanide	mg/kg	[NT]	[NT]	LCS-10	113%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	162119-F-21	05/05/2017 || 05/05/2017	LCS-10	05/05/2017
Date analysed	-	162119-F-21	05/05/2017 || 05/05/2017	LCS-10	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	162119-F-21	<1 || <1	LCS-10	90%
Total Fluoride	mg/kg	162119-F-21	35000 || 48000 || RPD: 31	LCS-10	107%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	162119-F-2	02/05/2017 || 02/05/2017	162119-F-7	02/05/2017
Date analysed	-	162119-F-2	04/05/2017 || 04/05/2017	162119-F-7	04/05/2017
Arsenic	mg/kg	162119-F-2	35 || 32 || RPD: 9	162119-F-7	105%
Cadmium	mg/kg	162119-F-2	0.5 || 0.6 || RPD: 18	162119-F-7	94%
Copper	mg/kg	162119-F-2	110 || 110 || RPD: 0	162119-F-7	108%
Lead	mg/kg	162119-F-2	180 || 180 || RPD: 0	162119-F-7	97%
Mercury	mg/kg	162119-F-2	<0.1 || <0.1	162119-F-7	103%
Molybdenum	mg/kg	162119-F-2	6 || 7 || RPD: 15	162119-F-7	99%
Nickel	mg/kg	162119-F-2	180 || 170 || RPD: 6	162119-F-7	85%
Selenium	mg/kg	162119-F-2	<2 || <2	162119-F-7	99%
Silver	mg/kg	162119-F-2	<1 || <1	162119-F-7	116%
Tin	mg/kg	162119-F-2	5 || 6 || RPD: 18	162119-F-7	87%
Zinc	mg/kg	162119-F-2	740 || 770 || RPD: 4	162119-F-7	111%

QUALITY CONTROL Misc Soil - Inorg	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	162119-F-2	03/05/2017 || 03/05/2017	162119-F-7	03/05/2017
Date analysed	-	162119-F-2	03/05/2017 || 03/05/2017	162119-F-7	03/05/2017
Free Cyanide in soil	mg/kg	162119-F-2	<0.5 || <0.5	162119-F-7	78%
Total Cyanide	mg/kg	162119-F-2	73 || 78 || RPD: 7	162119-F-7	111%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	162119-F-12	02/05/2017 || 02/05/2017	162119-F-25	02/05/2017
Date analysed	-	162119-F-12	04/05/2017 || 04/05/2017	162119-F-25	04/05/2017
Arsenic	mg/kg	162119-F-12	10 || 12 || RPD: 18	162119-F-25	98%
Cadmium	mg/kg	162119-F-12	0.5 || 0.4 || RPD: 22	162119-F-25	104%
Copper	mg/kg	162119-F-12	35 || 35 || RPD: 0	162119-F-25	107%
Lead	mg/kg	162119-F-12	19 || 20 || RPD: 5	162119-F-25	100%
Mercury	mg/kg	162119-F-12	<0.1 || <0.1	162119-F-25	98%
Molybdenum	mg/kg	162119-F-12	4 || 4 || RPD: 0	162119-F-25	103%
Nickel	mg/kg	162119-F-12	70 || 73 || RPD: 4	162119-F-25	96%
Selenium	mg/kg	162119-F-12	<2 || <2	162119-F-25	95%
Silver	mg/kg	162119-F-12	<1 || <1	162119-F-25	103%
Tin	mg/kg	162119-F-12	3 || 3 || RPD: 0	162119-F-25	91%
Zinc	mg/kg	162119-F-12	150 || 140 || RPD: 7	162119-F-25	95%
QUALITY CONTROL Misc Soil - Inorg	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	162119-F-12	03/05/2017 || 03/05/2017	162119-F-25	03/05/2017
Date analysed	-	162119-F-12	03/05/2017 || 03/05/2017	162119-F-25	03/05/2017
Free Cyanide in soil	mg/kg	162119-F-12	<0.5 || <0.5	162119-F-25	84%
Total Cyanide	mg/kg	162119-F-12	190 || 180 || RPD: 5	162119-F-25	106%
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-6	2/05/2017
Date analysed	-	[NT]	[NT]	162119-F-6	4/05/2017
TRH C_6 - C_9	mg/kg	[NT]	[NT]	162119-F-6	95%
TRH C_6 - C_{10}	mg/kg	[NT]	[NT]	162119-F-6	95%
Benzene	mg/kg	[NT]	[NT]	162119-F-6	95%
Toluene	mg/kg	[NT]	[NT]	162119-F-6	95%
Ethylbenzene	mg/kg	[NT]	[NT]	162119-F-6	86%
m+p-xylene	mg/kg	[NT]	[NT]	162119-F-6	100%
o-Xylene	mg/kg	[NT]	[NT]	162119-F-6	87%
naphthalene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	[NT]	[NT]	162119-F-6	95%

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-6	2/05/2017
Date analysed	-	[NT]	[NT]	162119-F-6	4/05/2017
Dichlorodifluoromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	[NT]	[NT]	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	mg/kg	[NT]	[NT]	162119-F-6	117%
cis-1,2-dichloroethene	mg/kg	[NT]	[NT]	[NR]	[NR]
bromochloromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
chloroform	mg/kg	[NT]	[NT]	162119-F-6	120%
2,2-dichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	mg/kg	[NT]	[NT]	162119-F-6	133%
1,1,1-trichloroethane	mg/kg	[NT]	[NT]	162119-F-6	119%
1,1-dichloropropene	mg/kg	[NT]	[NT]	[NR]	[NR]
Cyclohexane	mg/kg	[NT]	[NT]	[NR]	[NR]
carbon tetrachloride	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
dibromomethane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
trichloroethene	mg/kg	[NT]	[NT]	162119-F-6	90%
bromodichloromethane	mg/kg	[NT]	[NT]	162119-F-6	128%
trans-1,3-dichloropropene	mg/kg	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
dibromochloromethane	mg/kg	[NT]	[NT]	162119-F-6	119%
1,2-dibromoethane	mg/kg	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	[NT]	[NT]	162119-F-6	100%
1,1,1,2-tetrachloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
chlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
bromoform	mg/kg	[NT]	[NT]	[NR]	[NR]
m+p-xylene	mg/kg	[NT]	[NT]	[NR]	[NR]
styrene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
isopropylbenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
bromobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	mg/kg	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
tert-butyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
sec-butyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
hexachlorobutadiene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluorometha	%	[NT]	[NT]	162119-F-6	128%
Surrogate aaa-Trifluorotoluene	%	[NT]	[NT]	162119-F-6	95%
Surrogate Toluene-d_8	%	[NT]	[NT]	162119-F-6	92%
Surrogate 4-Bromofluorobenzene	%	[NT]	[NT]	162119-F-6	93%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	162119-F-22	02/05/2017 || 02/05/2017
Date analysed	-	162119-F-22	04/05/2017 || 04/05/2017
Arsenic	mg/kg	162119-F-22	8 || 8 || RPD: 0
Cadmium	mg/kg	162119-F-22	<0.4 || <0.4
Copper	mg/kg	162119-F-22	32 || 31 || RPD: 3
Lead	mg/kg	162119-F-22	23 || 23 || RPD: 0
Mercury	mg/kg	162119-F-22	<0.1 || <0.1
Molybdenum	mg/kg	162119-F-22	3 || 3 || RPD: 0
Nickel	mg/kg	162119-F-22	49 || 53 || RPD: 8
Selenium	mg/kg	162119-F-22	<2 || <2
Silver	mg/kg	162119-F-22	<1 || <1
Tin	mg/kg	162119-F-22	2 || 3 || RPD: 40
Zinc	mg/kg	162119-F-22	150 || 130 || RPD: 14

QUALITY CONTROL Misc Soil - Inorg	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	162119-F-22	03/05/2017 || 03/05/2017
Date analysed	-	162119-F-22	03/05/2017 || 03/05/2017
Free Cyanide in soil	mg/kg	162119-F-22	<0.5 || <0.5
Total Cyanide	mg/kg	162119-F-22	83 || 140 || RPD: 51

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	162119-F-6	05/05/2017
Date analysed	-	[NT]	[NT]	162119-F-6	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	[NT]	[NT]	162119-F-6	#
Total Fluoride	mg/kg	[NT]	[NT]	162119-F-6	101%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-24	2/05/2017
Date analysed	-	[NT]	[NT]	162119-F-24	4/05/2017
TRH C_6 - C_9	mg/kg	[NT]	[NT]	162119-F-24	90%
TRH C_6 - C_{10}	mg/kg	[NT]	[NT]	162119-F-24	90%
Benzene	mg/kg	[NT]	[NT]	162119-F-24	89%
Toluene	mg/kg	[NT]	[NT]	162119-F-24	89%
Ethylbenzene	mg/kg	[NT]	[NT]	162119-F-24	82%
m+p-xylene	mg/kg	[NT]	[NT]	162119-F-24	95%
o-Xylene	mg/kg	[NT]	[NT]	162119-F-24	83%
naphthalene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	[NT]	[NT]	162119-F-24	90%

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-24	2/05/2017
Date analysed	-	[NT]	[NT]	162119-F-24	4/05/2017
Dichlorodifluoromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	[NT]	[NT]	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	mg/kg	[NT]	[NT]	162119-F-24	110%
cis-1,2-dichloroethene	mg/kg	[NT]	[NT]	[NR]	[NR]
bromochloromethane	mg/kg	[NT]	[NT]	[NR]	[NR]
chloroform	mg/kg	[NT]	[NT]	162119-F-24	115%
2,2-dichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	mg/kg	[NT]	[NT]	162119-F-24	130%
1,1,1-trichloroethane	mg/kg	[NT]	[NT]	162119-F-24	112%
1,1-dichloropropene	mg/kg	[NT]	[NT]	[NR]	[NR]
Cyclohexane	mg/kg	[NT]	[NT]	[NR]	[NR]
carbon tetrachloride	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
dibromomethane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
trichloroethene	mg/kg	[NT]	[NT]	162119-F-24	84%
bromodichloromethane	mg/kg	[NT]	[NT]	162119-F-24	121%
trans-1,3-dichloropropene	mg/kg	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
dibromochloromethane	mg/kg	[NT]	[NT]	162119-F-24	114%
1,2-dibromoethane	mg/kg	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	[NT]	[NT]	162119-F-24	97%
1,1,1,2-tetrachloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
chlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
bromoform	mg/kg	[NT]	[NT]	[NR]	[NR]
m+p-xylene	mg/kg	[NT]	[NT]	[NR]	[NR]
styrene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL VOCs in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
isopropylbenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
bromobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	mg/kg	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
tert-butyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
sec-butyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
hexachlorobutadiene	mg/kg	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluorometha	%	[NT]	[NT]	162119-F-24	127%
Surrogate aaa-Trifluorotoluene	%	[NT]	[NT]	162119-F-24	90%
Surrogate Toluene-d_8	%	[NT]	[NT]	162119-F-24	90%
Surrogate 4-Bromofluorobenzene	%	[NT]	[NT]	162119-F-24	92%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	162119-F-24	05/05/2017
Date analysed	-	[NT]	[NT]	162119-F-24	05/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	[NT]	[NT]	162119-F-24	#
Total Fluoride	mg/kg	[NT]	[NT]	[NR]	[NR]
QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-9	02/05/2017
Date analysed	-	[NT]	[NT]	162119-F-9	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	[NT]	[NT]	162119-F-9	80%
Chlorpyriphos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	[NT]	[NT]	162119-F-9	103%
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	162119-F-9	105%
Fenitrothion	mg/kg	[NT]	[NT]	162119-F-9	90%
Malathion	mg/kg	[NT]	[NT]	162119-F-9	71%
Parathion	mg/kg	[NT]	[NT]	162119-F-9	96%
Ronnel	mg/kg	[NT]	[NT]	162119-F-9	115%
Surrogate TCMX	%	[NT]	[NT]	162119-F-9	81%
QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-10	02/05/2017
Date analysed	-	[NT]	[NT]	162119-F-10	03/05/2017
Phenol	mg/kg	[NT]	[NT]	162119-F-10	99%
2-Chlorophenol	mg/kg	[NT]	[NT]	162119-F-10	106%
2-Methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
3/4-Methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-Dimethylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2-Nitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-Dichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
4-Chloro-3-methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4,6-trichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4,5-trichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-dinitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
4-nitrophenol	mg/kg	[NT]	[NT]	162119-F-10	88%
diethylphthalate	mg/kg	[NT]	[NT]	162119-F-10	56%
2-methyl-4,6-dinitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
pentachlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
di-n-butylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
butylbenzylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
bis(2-ethylhexyl)phthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
di-n-octylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
2,6-dichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,3,4,6-tetrachlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate 2-fluorophenol	%	[NT]	[NT]	162119-F-10	81%
Surrogate Phenol-d_6	%	[NT]	[NT]	162119-F-10	110%
Surrogate Nitrobenzene-d_5	%	[NT]	[NT]	162119-F-10	72%
Surrogate 2-fluorobiphenyl	%	[NT]	[NT]	162119-F-10	106%
Surrogate 2,4,6-Tribromophenol	%	[NT]	[NT]	162119-F-10	#
Surrogate p-Terphenyl-d_{14}	%	[NT]	[NT]	162119-F-10	110%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-27	02/05/2017
Date analysed	-	[NT]	[NT]	162119-F-27	02/05/2017
Azinphos-methyl (Guthion)	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	[NT]	[NT]	162119-F-27	82%
Chlorpyriphos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	[NT]	[NT]	162119-F-27	82%
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	162119-F-27	107%
Fenitrothion	mg/kg	[NT]	[NT]	162119-F-27	75%
Malathion	mg/kg	[NT]	[NT]	162119-F-27	81%
Parathion	mg/kg	[NT]	[NT]	162119-F-27	92%
Ronnel	mg/kg	[NT]	[NT]	162119-F-27	100%
Surrogate TCMX	%	[NT]	[NT]	162119-F-27	79%

QUALITY CONTROL SVOCs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	162119-F-28	02/05/2017
Date analysed	-	[NT]	[NT]	162119-F-28	03/05/2017
Phenol	mg/kg	[NT]	[NT]	162119-F-28	41%
2-Chlorophenol	mg/kg	[NT]	[NT]	162119-F-28	21%
2-Methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
3/4-Methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-Dimethylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2-Nitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-Dichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
4-Chloro-3-methylphenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4,6-trichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4,5-trichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,4-dinitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
4-nitrophenol	mg/kg	[NT]	[NT]	162119-F-28	86%
diethylphthalate	mg/kg	[NT]	[NT]	162119-F-28	32%
2-methyl-4,6-dinitrophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
pentachlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
di-n-butylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
butylbenzylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
bis(2-ethylhexyl)phthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
di-n-octylphthalate	mg/kg	[NT]	[NT]	[NR]	[NR]
2,6-dichlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
2,3,4,6-tetrachlorophenol	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate 2-fluorophenol	%	[NT]	[NT]	162119-F-28	22%
Surrogate Phenol-d_6	%	[NT]	[NT]	162119-F-28	37%
Surrogate Nitrobenzene-d_5	%	[NT]	[NT]	162119-F-28	57%
Surrogate 2-fluorobiphenyl	%	[NT]	[NT]	162119-F-28	81%
Surrogate 2,4,6-Tribromophenol	%	[NT]	[NT]	162119-F-28	#
Surrogate p-Terphenyl-d_{14}	%	[NT]	[NT]	162119-F-28	#

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	162119-F-2	03/05/2017
Date analysed	-	[NT]	[NT]	162119-F-2	11/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	[NT]	[NT]	[NR]	[NR]
Total Fluoride	mg/kg	[NT]	[NT]	162119-F-2	104%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	162119-F-12	03/05/2017
Date analysed	-	[NT]	[NT]	162119-F-12	11/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	[NT]	[NT]	[NR]	[NR]
Total Fluoride	mg/kg	[NT]	[NT]	162119-F-12	104%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	162119-F-22	03/05/2017
Date analysed	-	[NT]	[NT]	162119-F-22	11/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	[NT]	[NT]	[NR]	[NR]
Total Fluoride	mg/kg	[NT]	[NT]	162119-F-22	83%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	162119-F-3	03/05/2017
Date analysed	-	[NT]	[NT]	162119-F-3	11/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	[NT]	[NT]	[NR]	[NR]
Total Fluoride	mg/kg	[NT]	[NT]	162119-F-3	99%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	162119-F-13	03/05/2017
Date analysed	-	[NT]	[NT]	162119-F-13	11/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	[NT]	[NT]	[NR]	[NR]
Total Fluoride	mg/kg	[NT]	[NT]	162119-F-13	108%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	162119-F-16	03/05/2017
Date analysed	-	[NT]	[NT]	162119-F-16	11/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	[NT]	[NT]	[NR]	[NR]
Total Fluoride	mg/kg	[NT]	[NT]	162119-F-16	95%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	162119-F-23	03/05/2017
Date analysed	-	[NT]	[NT]	162119-F-23	11/05/2017
Hexavalent Chromium, Cr^{6+}	mg/kg	[NT]	[NT]	[NR]	[NR]
Total Fluoride	mg/kg	[NT]	[NT]	162119-F-23	98%

Report Comments:

sTRH in soil: # Percent recovery is not possible to report as the high concentration of analytes in the sample/s have caused interference.

Hexavalent Chromium: Matrix spike recovery was outside recommended acceptance criteria, however an acceptable recovery was achieved for the LCS. This indicates a sample matrix interference.

PAH_S:
Percent recovery is not possible to report as the high concentration of analytes in the sample/s
have caused interference.
The RPD for duplicate results is accepted due to the non homogenous nature of the sample/s.

OCOP_S:
PQL has been raised due to interference from analytes(other than those being tested) in the sample/s.
Percent recovery is not possible to report due to interference from analytes (other than those being tested) in the sample/s.

SVOC_S_SCAN:
Percent recovery is not possible to report due to interference from analytes (other than those being tested) in the sample/s.

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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CERTIFICATE OF ANALYSIS 162119-G

Client:

Ramboll Environ Australia Pty Ltd
PO Box 560
North Sydney
NSW 2060

Attention: Craig Goodbody

Sample log in details:

Your Reference:	**Hydro Aluminium AS130515 TCLPs Metals**
No. of samples:	TCLP Solids
Date samples received / completed instructions received	16/02/2017 / 28/06/2017

R01 replaces R00 as sample idents corrected.

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	7/07/17 / 7/07/17
Date of Preliminary Report:	Not Issued

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

Results Approved By:

David Springer
General Manager

Metals in TCLP USEPA1311						
Our Reference:	UNITS	162119-G-2	162119-G-5	162119-G-32	162119-G-50	162119-G-56
Your Reference	----------	MW202 - BULK	MW205 - BULK	MW202 - BULK	MW202 - BULK	MW202 - BULK
	-	1st sub-sample	1st sub-sample	2nd sub-sample	3rd sub-sample	4TH sub-sample
Date Sampled	----------	10/02/2017	10/02/2017	10/02/2017	10/02/2017	10/02/2017
Type of sample		Solid Waste	Solid Waste	Solid Waste	Solid Waste	Solid Waste
Date extracted	-	05/07/2017	05/07/2017	05/07/2017	05/07/2017	05/07/2017
Date analysed	-	06/07/2017	06/07/2017	06/07/2017	06/07/2017	06/07/2017
pH of soil for fluid# determ.	pH units	8.9	10.2	8.9	9.1	9.5
pH of soil TCLP (after HCl)	pH units	2.1	2.2	1.9	2.0	1.9
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	5.4	5.6	5.4	5.4	5.4
Arsenic in TCLP	mg/L	<0.05	0.08	<0.05	<0.05	<0.05
Lead in TCLP	mg/L	0.41	<0.03	0.41	0.56	0.3
Nickel in TCLP	mg/L	0.09	0.06	0.1	0.1	0.09

Metals in TCLP USEPA1311				
Our Reference:	UNITS	162119-G-62	162119-G-63	162119-G-69
Your Reference	----------	MW202 - BULK	MW203 - BULK	MW203 - BULK
	-	5TH sub-sample	5TH sub-sample	6TH sub-sample
Date Sampled	----------	10/02/2017	10/02/2017	10/02/2017
Type of sample		Solid Waste	Solid Waste	Solid Waste
Date extracted	-	05/07/2017	05/07/2017	05/07/2017
Date analysed	-	06/07/2017	06/07/2017	06/07/2017
pH of soil for fluid# determ.	pH units	9.3	10.1	10.2
pH of soil TCLP (after HCl)	pH units	1.9	2.7	4.1
Extraction fluid used	-	1	1	1
pH of final Leachate	pH units	5.4	6.2	6.1
Arsenic in TCLP	mg/L	<0.05	<0.05	<0.05
Lead in TCLP	mg/L	0.3	<0.03	<0.03
Nickel in TCLP	mg/L	0.1	0.02	0.03

Method ID	Methodology Summary
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using in house method INORG-004.
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction (zHE) using AS4439 and USEPA 1311.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.

Client Reference: Hydro Aluminium AS130515 TCLPs Metals

QUALITY CONTROL Metals in TCLP USEPA1311	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			05/07/2017	[NT]	[NT]	LCSW-1	05/07/2017
Date analysed	-			06/07/2017	[NT]	[NT]	LCSW-1	06/07/2017
Arsenic in TCLP	mg/L	0.05	Metals-020 ICP-AES	<0.05	[NT]	[NT]	LCSW-1	111%
Lead in TCLP	mg/L	0.03	Metals-020 ICP-AES	<0.03	[NT]	[NT]	LCSW-1	107%
Nickel in TCLP	mg/L	0.02	Metals-020 ICP-AES	<0.02	[NT]	[NT]	LCSW-1	111%

QUALITY CONTROL Metals in TCLP USEPA1311	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	162119-G-50	05/07/2017 || 05/07/2017
Date analysed	-	162119-G-50	06/07/2017 || 06/07/2017
Arsenic in TCLP	mg/L	162119-G-50	<0.05 || <0.05
Lead in TCLP	mg/L	162119-G-50	0.56 || 0.50 || RPD: 11
Nickel in TCLP	mg/L	162119-G-50	0.1 || 0.1 || RPD: 0

Report Comments:

Note, Organics are not recommended in USEPA 1315, however, there is a modified USEPA method i.e. 1315M that is being used in the US but is yet to be finally approved.

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NR: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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Certificate of Analysis

Ramboll Environ Australia Pty Ltd
Level 3/100 Pacific Highway
North Sydney
NSW 2060

NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Craig Goodbody**

Report **541839-L**
Project name LEACHATE ANALYSIS
Received Date Apr 07, 2017

Client Sample ID			**QA201**	**QA202**	**QA203**	**QA204**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins | mgt Sample No.			**S17-Ap07854**	**S17-Ap07855**	**S17-Ap07856**	**S17-Ap07857**
Date Sampled			**Not Provided**	**Not Provided**	**Not Provided**	**Not Provided**
Test/Reference	LOR	Unit				
Fluoride	0.2	mg/L	48	150	280	450
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	9.2	7.7	9.3	9.7
pH (off)	0.1	pH Units	6.1	6.0	9.3	9.4
pH (USA HCl addition)	0.1	pH Units	1.8	1.7	1.9	1.9

Client Sample ID			**QA205**	**QA206**	**QA201<125mm**	**QA201>125mm**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins | mgt Sample No.			**S17-Ap07858**	**S17-Ap07859**	**S17-Ap07860**	**S17-Ap07861**
Date Sampled			**Not Provided**	**Not Provided**	**Not Provided**	**Not Provided**
Test/Reference	LOR	Unit				
Fluoride	0.2	mg/L	46	120	78	320
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.8	9.1	9.1	9.3
pH (off)	0.1	pH Units	7.0	6.2	6.8	9.4
pH (USA HCl addition)	0.1	pH Units	1.8	1.8	1.8	1.8

Client Sample ID			**QA203<125mm**	**QA203>125mm**	**QA201**	**QA202**
Sample Matrix			**US Leachate**	**US Leachate**	**AUS Leachate - Reagent Water**	**AUS Leachate - Reagent Water**
Eurofins | mgt Sample No.			**S17-Ap07862**	**S17-Ap07863**	**S17-Ap07864**	**S17-Ap07865**
Date Sampled			**Not Provided**	**Not Provided**	**Not Provided**	**Not Provided**
Test/Reference	LOR	Unit				
Cyanide (total)	0.25	mg/L	-	-	< 0.25	< 0.25
Fluoride	0.2	mg/L	57	180	-	-
AUS Leaching Procedure						
Leachate Fluid[C01]		comment	-	-	4.0	4.0
pH (initial)	0.1	pH Units	-	-	9.2	7.7
pH (Leachate fluid)	0.1	pH Units	-	-	7.0	7.0
pH (off)	0.1	pH Units	-	-	9.0	8.4

Client Sample ID			QA203<125mm	QA203>125mm	QA201	QA202
Sample Matrix			US Leachate	US Leachate	AUS Leachate - Reagent Water	AUS Leachate - Reagent Water
Eurofins | mgt Sample No.			S17-Ap07862	S17-Ap07863	S17-Ap07864	S17-Ap07865
Date Sampled			Not Provided	Not Provided	Not Provided	Not Provided
Test/Reference	LOR	Unit				
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	-	-
pH (initial)	0.1	pH Units	9.4	9.5	-	-
pH (off)	0.1	pH Units	7.0	9.4	-	-
pH (USA HCl addition)	0.1	pH Units	1.9	1.8	-	-

Client Sample ID			QA203	QA204	QA205	QA206
Sample Matrix			AUS Leachate - Reagent Water	AUS Leachate - Reagent Water	AUS Leachate - Reagent Water	AUS Leachate - Reagent Water
Eurofins | mgt Sample No.			S17-Ap07866	S17-Ap07867	S17-Ap07868	S17-Ap07869
Date Sampled			Not Provided	Not Provided	Not Provided	Not Provided
Test/Reference	LOR	Unit				
Cyanide (total)	0.25	mg/L	< 0.25	< 0.25	< 0.25	< 0.25
AUS Leaching Procedure						
Leachate Fluid[C01]		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	9.3	9.7	8.8	9.1
pH (Leachate fluid)	0.1	pH Units	7.0	7.0	7.0	7.0
pH (off)	0.1	pH Units	9.1	9.3	8.9	8.8

Client Sample ID			QA201<125mm	QA201>125mm	QA203<125mm	QA203>125mm
Sample Matrix			AUS Leachate - Reagent Water	AUS Leachate - Reagent Water	AUS Leachate - Reagent Water	AUS Leachate - Reagent Water
Eurofins | mgt Sample No.			S17-Ap07870	S17-Ap07871	S17-Ap07872	S17-Ap07873
Date Sampled			Not Provided	Not Provided	Not Provided	Not Provided
Test/Reference	LOR	Unit				
Cyanide (total)	0.25	mg/L	< 0.25	< 0.25	< 0.25	< 0.25
AUS Leaching Procedure						
Leachate Fluid[C01]		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	9.1	9.3	9.4	9.5
pH (Leachate fluid)	0.1	pH Units	7.0	7.0	7.0	7.0
pH (off)	0.1	pH Units	9.2	9.2	9.2	10

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Cyanide (total)	Melbourne	Apr 13, 2017	14 Day
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Apr 13, 2017	28 Day
- Method: NEPC 404 (Fusion followed by ISE)			
AUS Leaching Procedure	Sydney	Apr 11, 2017	7 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			
USA Leaching Procedure	Sydney	Apr 11, 2017	14 Day
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			

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Company Name: Ramboll Environ Australia Pty Ltd
Address: Level 3/100 Pacific Highway
North Sydney
NSW 2060

Project Name: LEACHATE ANALYSIS

Order No.:
Report #: 541839
Phone: 02 9954 8118
Fax: 02 9954 8150

Received: Apr 7, 2017 4:45 PM
Due: Apr 18, 2017
Priority: 5 Day
Contact Name: Craig Goodbody

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Cyanide (total)	Fluoride	AUS Leaching Procedure	USA Leaching Procedure
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X		
Sydney Laboratory - NATA Site # 18217								X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 18217									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QA201	Not Provided		US Leachate	S17-Ap07854		X		X
2	QA202	Not Provided		US Leachate	S17-Ap07855		X		X
3	QA203	Not Provided		US Leachate	S17-Ap07856		X		X
4	QA204	Not Provided		US Leachate	S17-Ap07857		X		X
5	QA205	Not Provided		US Leachate	S17-Ap07858		X		X
6	QA206	Not Provided		US Leachate	S17-Ap07859		X		X
7	QA201<125mm	Not Provided		US Leachate	S17-Ap07860		X		X
8	QA201>125mm	Not Provided		US Leachate	S17-Ap07861		X		X
9	QA203<125m	Not Provided		US Leachate	S17-Ap07862		X		X

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Sample Detail						Cyanide (total)	Fluoride	AUS Leaching Procedure	USA Leaching Procedure
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X		
Sydney Laboratory - NATA Site # 18217								X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 18217									
	m								
10	QA203>125mm	Not Provided		US Leachate	S17-Ap07863		X		X
11	QA201	Not Provided		AUS Leachate - Reagent Water	S17-Ap07864	X		X	
12	QA202	Not Provided		AUS Leachate - Reagent Water	S17-Ap07865	X		X	
13	QA203	Not Provided		AUS Leachate - Reagent Water	S17-Ap07866	X		X	
14	QA204	Not Provided		AUS Leachate - Reagent Water	S17-Ap07867	X		X	
15	QA205	Not Provided		AUS Leachate	S17-Ap07868	X		X	

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Sample Detail						Cyanide (total)	Fluoride	AUS Leaching Procedure	USA Leaching Procedure
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X		
Sydney Laboratory - NATA Site # 18217								X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 18217									
				- Reagent Water					
16	QA206	Not Provided		AUS Leachate - Reagent Water	S17-Ap07869	X		X	
17	QA201<125mm	Not Provided		AUS Leachate - Reagent Water	S17-Ap07870	X		X	
18	QA201>125mm	Not Provided		AUS Leachate - Reagent Water	S17-Ap07871	X		X	
19	QA203<125mm	Not Provided		AUS Leachate - Reagent Water	S17-Ap07872	X		X	
20	QA203>125mm	Not Provided		AUS Leachate - Reagent	S17-Ap07873	X		X	

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Company Name:	Ramboll Environ Australia Pty Ltd	**Order No.:**		**Received:**	Apr 7, 2017 4:45 PM
Address:	Level 3/100 Pacific Highway	**Report #:**	541839	**Due:**	Apr 18, 2017
	North Sydney	**Phone:**	02 9954 8118	**Priority:**	5 Day
	NSW 2060	**Fax:**	02 9954 8150	**Contact Name:**	Craig Goodbody
Project Name:	LEACHATE ANALYSIS				

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail	Cyanide (total)	Fluoride	AUS Leaching Procedure	USA Leaching Procedure
Melbourne Laboratory - NATA Site # 1254 & 14271	X	X		
Sydney Laboratory - NATA Site # 18217			X	X
Brisbane Laboratory - NATA Site # 20794				
Perth Laboratory - NATA Site # 18217				
Water				
Test Counts	10	10	10	10

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

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

Units

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

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

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

QC Data General Comments

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

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Fluoride			mg/L	< 0.2			0.2	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	S17-Ap07854	CP	mg/L	48	58	19	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Fluoride	S17-Ap07865	CP	mg/L	320	300	4.2	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised By

Nibha Vaidya	Analytical Services Manager
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson
National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1712930**	Page	: 1 of 10
Client	: **RAMBOLL ENVIRON**	Laboratory	: Environmental Division Sydney
Contact	: MR CRAIG GOODBODY	Contact	: Sepan Mahamad
Address	: PO BOX 560 NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: 02 4962 5444	Telephone	: +61-2-8784 8555
Project	: ----	Date Samples Received	: 26-May-2017 11:00
Order number	: ----	Date Analysis Commenced	: 29-May-2017
C-O-C number	: ----	Issue Date	: 02-Jun-2017 16:29
Sampler	: ----		
Site	: ----		
Quote number	: SY/256/17		
No. of samples received	: 33		
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.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, 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 no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component.

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

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

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) 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.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	162119-D-9	162119-D-18	162119-D-27	162119-D-36	162119-D-45
				Client sampling date / time	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]
Compound	CAS Number	LOR	Unit		ES1712930-001	ES1712930-002	ES1712930-003	ES1712930-004	ES1712930-005
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.281**	<0.004	**0.257**	**0.220**	**0.028**
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**35.5**	**0.4**	**142**	**190**	**1.2**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.7	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.7	<0.5	<0.5	<0.5
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.7	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**23.1**	**29.8**	**24.2**	**24.6**	**21.6**
2-Chlorophenol-D4	93951-73-6	1	%		**44.8**	**52.6**	**44.5**	**43.9**	**43.2**
2.4.6-Tribromophenol	118-79-6	1	%		**42.9**	**54.9**	**44.1**	**46.7**	**42.7**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		**65.5**	**69.4**	**67.6**	**68.0**	**57.4**
Anthracene-d10	1719-06-8	1	%		**79.8**	**82.4**	**81.8**	**83.3**	**54.7**
4-Terphenyl-d14	1718-51-0	1	%		**69.2**	**70.1**	**69.0**	**70.2**	**63.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	162119-D-54	162119-D-63	162119-D-72	162119-D-81	162119-D-90
				Client sampling date / time	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]
Compound	CAS Number	LOR	Unit		ES1712930-006	ES1712930-007	ES1712930-008	ES1712930-009	ES1712930-010
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.206**	**0.037**	<0.004	**35.4**	**0.014**
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**160**	**17.4**	**92.7**	**31.3**	**65.0**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**23.8**	**20.5**	**18.8**	**16.6**	**24.1**
2-Chlorophenol-D4	93951-73-6	1	%		**39.8**	**39.5**	**49.2**	**41.8**	**51.9**
2.4.6-Tribromophenol	118-79-6	1	%		**50.1**	**38.9**	**38.6**	**35.2**	**43.5**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		**67.2**	**71.8**	**65.9**	**79.3**	**63.7**
Anthracene-d10	1719-06-8	1	%		**81.6**	**85.4**	**77.2**	**84.8**	**79.5**
4-Terphenyl-d14	1718-51-0	1	%		**68.9**	**70.0**	**72.5**	**72.6**	**67.1**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	162119-D-99	162119-D-108	162119-D-117	162119-D-126	162119-D-135
				Client sampling date / time	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]
Compound	CAS Number	LOR	Unit		ES1712930-011	ES1712930-012	ES1712930-013	ES1712930-014	ES1712930-015
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.007**	<0.004	<0.004	<0.004	<0.004
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**1.4**	**0.2**	**0.6**	**0.2**	**0.3**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**18.0**	**23.7**	**24.4**	**19.3**	**25.5**
2-Chlorophenol-D4	93951-73-6	1	%		**39.0**	**41.0**	**44.1**	**48.8**	**65.0**
2.4.6-Tribromophenol	118-79-6	1	%		**42.8**	**36.1**	**42.7**	**36.9**	**46.3**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		**80.3**	**62.7**	**70.9**	**53.1**	**63.4**
Anthracene-d10	1719-06-8	1	%		**74.2**	**80.2**	**77.1**	**68.4**	**78.6**
4-Terphenyl-d14	1718-51-0	1	%		**64.2**	**70.6**	**76.8**	**66.8**	**74.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	162119-D-144	162119-D-153	162119-D-162	162119-D-171	162119-D-180
				Client sampling date / time	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]
Compound	CAS Number	LOR	Unit		ES1712930-016	ES1712930-017	ES1712930-018	ES1712930-019	ES1712930-020
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		<0.004	**0.448**	<0.004	**1.51**	**0.405**
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**0.1**	**87.0**	**0.9**	**106**	**122**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**21.4**	**28.6**	**24.7**	**27.5**	**27.9**
2-Chlorophenol-D4	93951-73-6	1	%		**58.6**	**62.6**	**63.8**	**69.4**	**63.2**
2.4.6-Tribromophenol	118-79-6	1	%		**40.8**	**47.9**	**51.5**	**47.4**	**47.5**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		**61.4**	**64.8**	**65.5**	**71.5**	**68.9**
Anthracene-d10	1719-06-8	1	%		**52.5**	**54.8**	**76.1**	**79.5**	**76.6**
4-Terphenyl-d14	1718-51-0	1	%		**72.6**	**70.1**	**71.9**	**76.8**	**74.1**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	162119-D-189	162119-D-198	162119-D-207	162119-D-216	162119-D-225
				Client sampling date / time	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]
Compound	CAS Number	LOR	Unit		ES1712930-021	ES1712930-022	ES1712930-023	ES1712930-024	ES1712930-025
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.199**	**0.312**	**0.010**	**0.008**	<0.004
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**156**	**494**	**2.8**	**3.1**	**3.5**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.6	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.6	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.6	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**27.5**	**25.4**	**18.7**	**19.6**	**19.0**
2-Chlorophenol-D4	93951-73-6	1	%		**63.9**	**64.9**	**44.6**	**51.3**	**55.2**
2.4.6-Tribromophenol	118-79-6	1	%		**38.8**	**42.4**	**35.8**	**42.7**	**35.8**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		**67.3**	**67.6**	**83.2**	**81.2**	**86.7**
Anthracene-d10	1719-06-8	1	%		**74.9**	**86.2**	**53.2**	**75.2**	**55.6**
4-Terphenyl-d14	1718-51-0	1	%		**72.0**	**79.8**	**73.3**	**76.7**	**76.4**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	162119-D-234	162119-D-243	162119-D-252	162119-D-261	162119-D-270
				Client sampling date / time	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]	[24-May-2017]
Compound	CAS Number	LOR	Unit		ES1712930-026	ES1712930-027	ES1712930-028	ES1712930-029	ES1712930-030
					Result	Result	Result	Result	Result
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.012**	**0.009**	**0.005**	**0.025**	**0.036**
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**3.2**	**3.2**	**2.6**	**13.3**	**39.1**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**22.4**	**19.6**	**19.2**	**21.4**	**20.4**
2-Chlorophenol-D4	93951-73-6	1	%		**57.6**	**47.4**	**52.2**	**48.8**	**40.1**
2.4.6-Tribromophenol	118-79-6	1	%		**49.6**	**39.6**	**38.8**	**44.4**	**39.2**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		**96.9**	**77.7**	**89.4**	**77.5**	**93.2**
Anthracene-d10	1719-06-8	1	%		**57.1**	**60.5**	**76.5**	**55.8**	**80.6**
4-Terphenyl-d14	1718-51-0	1	%		**76.1**	**71.7**	**75.4**	**73.6**	**77.7**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	162119-D-279	162119-D-288	162119-D-306	----	----
				Client sampling date / time	[24-May-2017]	[24-May-2017]	[24-May-2017]	----	----
Compound	CAS Number	LOR	Unit		ES1712930-031	ES1712930-032	ES1712930-033	--------	--------
					Result	Result	Result	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**0.056**	**0.049**	**0.065**	----	----
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**57.6**	**43.3**	**21.2**	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1	µg/L		<1.0	<1.0	<1.0	----	----
Acenaphthylene	208-96-8	1	µg/L		<1.0	<1.0	<1.0	----	----
Acenaphthene	83-32-9	1	µg/L		<1.0	<1.0	<1.0	----	----
Fluorene	86-73-7	1	µg/L		<1.0	<1.0	<1.0	----	----
Phenanthrene	85-01-8	1	µg/L		<1.0	<1.0	<1.0	----	----
Anthracene	120-12-7	1	µg/L		<1.0	<1.0	<1.0	----	----
Fluoranthene	206-44-0	1	µg/L		<1.0	<1.0	<1.0	----	----
Pyrene	129-00-0	1	µg/L		<1.0	<1.0	<1.0	----	----
Benz(a)anthracene	56-55-3	1	µg/L		<1.0	<1.0	<1.0	----	----
Chrysene	218-01-9	1	µg/L		<1.0	<1.0	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L		<1.0	<1.0	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1	µg/L		<1.0	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L		<1.0	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1	µg/L		<1.0	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1	µg/L		<1.0	<1.0	<1.0	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	<0.5	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	<0.5	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**17.7**	**18.9**	**17.9**	----	----
2-Chlorophenol-D4	93951-73-6	1	%		**50.5**	**47.0**	**49.4**	----	----
2.4.6-Tribromophenol	118-79-6	1	%		**47.0**	**42.1**	**48.5**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		**97.8**	**80.1**	**97.9**	----	----
Anthracene-d10	1719-06-8	1	%		**79.2**	**73.8**	**68.2**	----	----
4-Terphenyl-d14	1718-51-0	1	%		**73.8**	**74.8**	**64.3**	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112