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Sediment Sampling and Analysis Report

Port Stanvac, South Australia

27 November 2020

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1. INTRODUCTION

Environmental Projects (EP) were commissioned by Department for Environment and Water (DEW) to prepare a Sediment Sampling and Analysis (SAP) report for sediment sampling undertaken offshore at Port Stanvac, South Australia. A site location plan is provided as Figure 1, **Appendix A.**

1.1 Project Purpose

DEW, via the Securing the Future of our Coastline project, is committed to delivering external sand to the Adelaide Metropolitan Coast, particularly along West Beach and Henley Beach South. Recent bathymetric mapping and profiling indicate large volumes of sand is present to the west of Port Stanvac that varies in depths from 0.5 m to 4.8 m. Sediment sampling was required to determine the material's suitability for beach replenishment. A sediment SAP was prepared by EP to identify potential sediment contaminants at Port Stanvac, outline a sampling plan that will effectively detect and quantitate those contaminants, and compare results to appropriate environmental screening levels set out in the National Assessment Guidelines for Dredging (NAGD) 2009.

As some of the dredged sediment placed on the beach will slowly return to the marine environment, the sediment is considered dredge spoil being dumped at sea under the NAGD.

A sediment SAP was prepared by EP in August 2020 (20085.01 SAP 11082020) to identify potential sediment contaminants at Port Stanvac and outline a sampling plan that will effectively detect and quantitate those contaminants.

The purpose of this report is to outline the sampling methodologies undertaken in the field, identify any variations of methodologies proposed in the SAP, analyse results, and compare the results to appropriate environmental screening levels set out in the NAGD.

1.2 Site Description

The sediment sampling area is a 5 km^2 portion of the seabed west of Port Stanvac (see Figure 1, **Appendix A**). Sampling will avoid the remaining sub surface jetty infrastructure by adopting a buffer of 100 m in all directions.

1.3 Potential Disposal Site

The proposed sand deposition area extends from West Beach (north of the marina) to Henley Beach South – which covers approximately 2.5 km of coastline (see Figure 2, **Appendix A**). Assuming an average width of 10 m, this represents an area of approximately 2.5 ha. EP understood sand is to be deposited above the high-water mark, but not within existing dunes where they are present.

1.4 Objectives

The objectives of the SAP report are to:

- test the assumption that marine sediment is not contaminated by elevated levels of naturally occurring contaminants or by human activity
- determine the range of grain sizes of the potential sand source
- maximise the amount and quality of information about the sediment

- implement field and laboratory quality assurance and quality control measures and procedures.

1.5 Scope of Work

The scope of work was undertaken in accordance with EP's proposal dated 11 September 2020 and included:

- summary of the SAP
- a description (including maps and tables) of the sampling carried out, actual sample locations, sample numbers (including replicates and QA samples)
- completed chain of custody (COC) forms, field logs and descriptions of the sediments
- details of any problems encountered or deviations from the procedures set out in the SAP (including justifications for deviations)
- presentation and review of the results, including quality assurance/quality control (QA/QC) assessment of both field and laboratory data
- visual presentation of contaminant distribution at depths and across the site if required
- laboratory and field data
- assessment of the results and comparison with background concentrations at deposition site
- review of the broad analytical suite results to determine whether unexpected contaminants are present
- description of the deposition site including ambient baseline data for 'Background' comparison
- conclusions as to the acceptability or unacceptability of the sediment for public beach sand replenishment purposes
- recommendations as to further work required such as Phase III or Phase IV assessment.

2. SUMMARY OF SEDIMENT SAMPLING AND ANALYSIS PLAN

The works were undertaken in accordance with the SAP prepared by Environmental Projects (ref. 20085.01 SAP 11082020) – with the exception of variations detailed in this report (see Section 3.2).

The SAP consisted of the following fundamental sections:

- description of the purpose of the sampling to be undertaken
- list of objectives to be achieved by the sediment sampling
- detailed description of the boundaries of the assessment
- details of the dredging proposal that is the driver for the sediment sampling
- description of Port Stanvac sediments based on available information, identification of potentially contaminating activities and activities of environmental significance in the proposed sampling area, history of the proposed dredge area and review of previous sampling results – with the purpose of identifying target contaminants for the assessment
- description of sampling design including sampling density and consideration of sample stratification
- sampling procedures including sample collection and core logging
- detailed sample analytical list for all samples to be analysed
- identification of screening levels for data analysis comparison.

3. DESCRIPTION OF WORK

3.1 Fieldwork methodology

Intrusive assessment of sediments at the subject site was completed with reference to the guidance listed in **Appendix B**.

The sampling, analysis and quality plan and assessment rationale are provided in **Appendix B**.

The fieldwork methodology is summarised in Table 3-1.

Prior to the sediment assessment, EP prepared a site-specific EHS plan to identify known hazards to the health and safety of project personnel and the environment, based on an understanding of the proposed work and EPs experience with similar projects. All EP personnel and subcontractors onsite were required to understand and comply with all control measures.

Table 3-1: Sediment Sampling Methodology

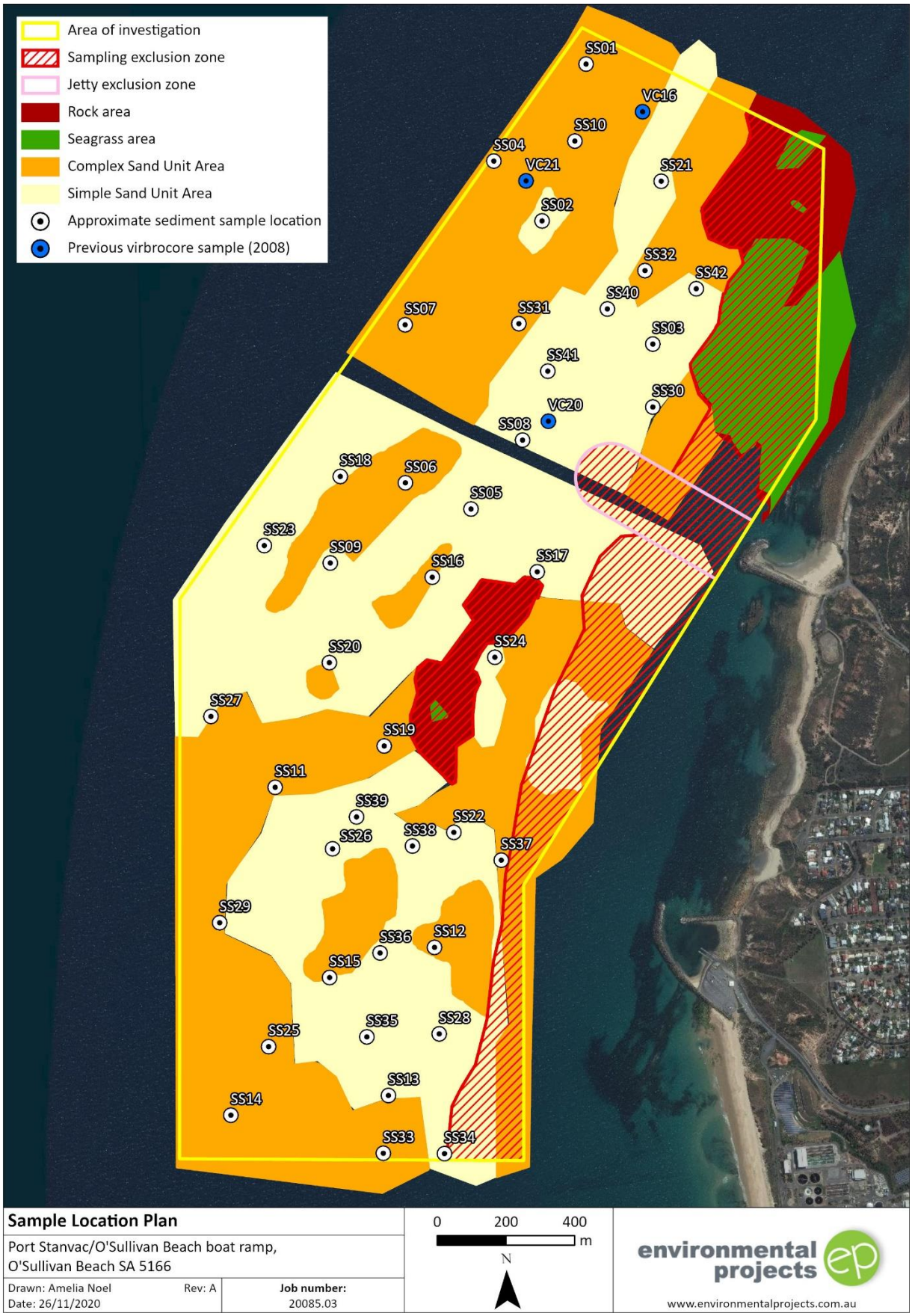
Activity	Details		
Identification of investigation area	The assessment area boundary is shown on Figure 1, **Appendix A**.		
Drilling locations	All samples were collected from sediments beneath the seabed. Location ID's and the location coordinates are summarised below. All coordinates are in topological data analysis (TDA) 1994 MGA Zone 54. The sample location plan is provided as Figure 3-1.		
	Location ID	**Easting**	**Northing**
	SS01	268870.4	6113364
	SS02	268767	6112882
	SS03	269081.7	6112541
	SS04	268639.5	6113040
	SS05	268564.5	6112046
	SS06	268332.2	6112086
	SS07	268359.8	6112560
	SS08	268700.3	6112262
	SS09	268148.7	6111914
	SS10	268873.2	6113116
	SS11	267993.6	6111263
	SS12	268441.5	6110752
	SS13	268296	6110307
	SS14	267839.8	6110257
	SS15	268144.4	6110657
	SS16	268408.4	6111851

Activity	Details		
	SS17	268733.1	6111871
	SS18	268149.1	6112162
	SS19	268287.3	6111356
	SS20	268134.5	6111612
	SS21	269107.9	6113017
	SS22	268493.8	6111103
	SS23	267928.4	6111948
	SS24	268603.8	6111594
	SS25	267949.7	6110449
	SS26	268142	6111055
	SS27	267795.9	6111453
	SS28	268441.8	6110508
	SS29	267797.7	6110806
	SS30	269073.1	6112361
	SS31	268683.2	6112583
	SS32	269046.2	6112751
Drilling dates and methodology	Drilling and sampling were conducted on the following dates: • 25 August 2020: SS09, SS22 • 26 August 2020: SS01, SS02, SS03, SS08, SS25 • 28 August 2020: SS17, SS18, SS21, SS23, SS30 • 31 August 2020: SS12, SS13, SS14, SS15, SS24, SS28, SS29 • 5 September 2020: SS06, SS07, SS11, SS16, SS19, SS27 • 9 September 2020: SS04, SS05, SS10, SS31, SS32. All cores were drilled by AMSA Domestic Commercial Vessel (DCV) surveyed boat 'RV ORCA' with a stable Spatial Data Infrastructure (SDI) approved and survey assessed A-Frame mounted vibrating corer (vibracore). The corer and boat were operated by Dr. Michael Sierp. The cores were recovered into aluminium core tubes. All cores were dedicated to each sampling location and were recycled following completion of the fieldwork. Maximum drilling depths was determined onsite by the drilling contractor but did not exceed 3 mBGL.		
Sampling area	EP used the Christies Beach Sailing Club storage yard (sailing yard) to set up all core cutting and sampling equipment for the duration of the fieldwork.		
Core measurements	The aluminium cores were delivered to the O'Sullivan Beach boat ramp by Dr. Sierp and transported by EP to the sailing yard. All cores were carefully drained of overlying water prior to transportation from the boat ramp. The recovered core length was measured and recorded before splitting the core open lengthwise with a circular saw. Core recovery ranged from 0.35 mBGL at SS01 and SS23 to 2.05 mBGL at SS11. No recovery was obtained from SS20 and SS25 due to drilling refusal.		

Activity	Details
Sediment logging and photographs	The split core was taken to the dedicated sampling area where it was placed on pallets to elevate the cores from potential contaminants on the ground. Sediments at each location were logged in general accordance with Standards Australia (1993) Geotechnical Site Investigations AS1726. Sediment logs are provided in **Appendix C.** All cores were also logged by the project geologist Bobbie Rice. Where applicable, log descriptions also included information on: • particle size and distribution • shape of coarse sediments and shells • colour • odour • moisture content at time of logging • structure • descriptive name (e.g. recent sediments, ancient sediments). Field indicators of potential contamination (e.g. staining, odour) were recorded on the field logs and are summarised in Section 4.2.1. A photographic record of the core stratigraphy was collected at all locations.
Sediment sampling	Samples were collected into laboratory supplied soil jars and bags from depth intervals considered appropriate by EPs field representative. Combination and PFAS samples were generally collected from near the top of the core, and at other depths considered appropriate by the field representative. Bulk density samples were collected from depth intervals considered representative of the sediment through most of the core. Particle Size Distribution (PSD) samples were composite samples collected from various depths along the core.
Sample handling	Samples were handled exclusively by EP personnel. Samples were stored in glass jars and plastic sampling bags supplied by the primary contract laboratory. Disposable nitrile gloves were worn whilst handling all samples and were replaced prior to the collection of each sample.
Decontamination of sampling equipment	Dedicated core tubes were decontaminated prior to the fieldwork by Dr. Sierp. Any re-usable sampling equipment was cleaned between sampling locations by scrubbing with a Decon-90 solution then rinsed with potable water.
Sample preservation and delivery	All samples were stored under chilled conditions in a portable cooler immediately after sampling. Samples were kept chilled prior to and during delivery to the NATA accredited primary laboratory. Sample transport was performed in accordance with EPs COC procedures.
Quality control duplicate sampling and testing	Six blind coded duplicate samples were obtained for contamination and PFAS testing to meet QA/QC requirements. No duplicate samples were collected for the bulk density or PSD samples due to inadequate sample recovery. Dup 1 (report 249261) x 2 (duplicates of SS08 combined and PFAS samples), Dup 2 x 2 (duplicates of SS13-1 combined and PFAS samples), Dup 3 x 2 (duplicates of SS05 combined and PFAS samples) and Dup 1 (report 251890) (duplicate of SS37 combined particle size distribution sample) were selected for intra-laboratory testing. Three equipment rinse samples were collected across the six days of fieldwork. Samples were sent to the laboratory in five separate batches. One trip blank accompanied each sample batch in the cooler from the field to the laboratory.

Activity	Details
Laboratory analysis	Envirolab was contracted as the primary laboratory for analysis and was NATA accredited for the analysis selected. Laboratory analysis of primary samples is outlined in the SAQP summary table in **Appendix B**. The equipment rinses collected on 25 August 2020 and 31 August 2020 were analysed for heavy metals, TRH + BTEX and naphthalene. The equipment rinse collected on 9 September 2020 was analysed for heavy metals. All trip blank samples collected were analysed for volatile TRH fractions.

Bobbie Rice completed geological logs for the assessment, and a summary is provided in **Appendix C.**



Sample Location Plan

Port Stanvac/O'Sullivan Beach boat ramp,
O'Sullivan Beach SA 5166

Drawn: Amelia Noel Rev: A
Date: 26/11/2020

Job number:
20085.03

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Figure 3-1: Sample Location Plan

3.2 Variations from SAP

Variations from the SAP include:

- no baseline sampling of sediments along West Beach and Henley Beach south was conducted as part of this assessment
- all core logging and sample collection occurred on land due to safety concerns that would have been created by having too many people on the boat
- generally, only two samples (combination and PFAS analytes) were collected from near the top of each core, however additional samples were collected from other depth intervals when considered appropriate by the field consultant. The SAP was prepared assuming cores containing up to 3 metres of sand, which was not the case – the limited quantity of target material (sand) restricted the number of samples able to be collected
- a photo-ionisation detector (PID) was not used to screen samples for volatile organic compounds due to moisture content of sediment samples which would compromise PID operation
- supernatant water was drained at the boat ramp and was not collected for analysis however the analytical results eliminated the need for supernatant sampling
- cores were cut and split open on land using a circular saw rather than using plastic sleeves inside cores due to equipment restrictions
- no field testing of samples was undertaken, all analysis occurred at the laboratory
- the percentage of silt/clay (fines) in the sediment was assessed in accordance with the risk categories outlined in the draft *SA EPA Dredge Guideline – Public Consultation 2020* (SA EPA 2020)

4. PRESENTATION AND REVIEW OF RESULTS

4.1 Assessment Criteria

4.1.1 National Assessment Guidelines for Dredging

The acceptability of dredged material, containing contaminants, is initially assessed by comparing analytical results to the screening levels listed in Table 2 of the *National Assessment Guidelines for Dredging 2009* (NAGD 2009).The screening levels are summarised in the chemical summary table in **Appendix D**.

The SA EPA accepts use of the 95% Upper Confidence Limit (UCL) about the mean to establish the statistical contaminant concentration average for comparison to screening criteria. However, for the 95% UCL to apply, the data set must be reviewed for potential hot spots of contamination via the following additional criteria:

- maximum concentration less than 250% of the chemical criterion
- standard deviation less than 50% of the chemical criterion.

Deviation from these cut off criteria may indicate the presence of anomalous or isolated hot spot concentrations, which may require segregation for appropriate risk management.

4.1.2 Draft SA EPA Dredge Guidelines

The SA EPA released the draft *SA EPA Dredge Guidelines – Public Consultation 2020* (SA EPA Dredge Guidelines 2020) that outlines the requirements proponents of dredging activities must do to meet legislative requirements for dredging in South Australia. The guideline outlines the potential environmental impacts to dredging and the EPA expectations around their management.

The SA EPA Dredge Guidelines 2020 indicate that dredge material with a high percentage of fines (silt and clay) is at a higher risk of causing long term impacts to water quality, as fine sediments are more likely to remain suspended in water for longer periods of time and are more likely to be resuspended once dredging has finished. The flow chart on page 21 of the SA EPA Dredge Guidelines 2020 indicate:

- low risk sediments will have less than 1% fines
- medium risk sediments will have between 1% and 10% fines
- high risk sediments will have more than 10% fines.

It must be noted the flow chart on page 21 of the SA EPA Dredge Guidelines 2020 outline several other parameters that influence the activities risk of harm to water quality and the percentage of fines in sediment must be considered in conjunction with these.

4.1.3 Aesthetic Criteria

For the sediments to be aesthetically suitable for the proposed use, the general assessment considerations include:

- that discoloured sands or large quantities of various types of inert inclusions such as shells and gravel, particularly if unsightly, may cause concern to beach users

- commentary on “roundness” of sand grains and absence of sharp inclusions such as shell grit from a beach use perspective
- calcium carbonate content from a solubility and turbidity perspective.

4.2 Review of Results

4.2.1 Visual Description of Sediment

A sample location plan is provided as Figure 3-1. Sediment logs are provided in **Appendix C**.

While lithology was highly variable across the assessment area, sand was the primary sediment constituent (i.e. sand was present in more than 50% of all identified sediment layers) at most sampling locations. Only three of the 30 locations where core recovery was obtained (SS18, SS27 and SS29) had clay or gravel as the primary constituent.

While sand was the primary constituent in most of the cores, clay and gravel layers were noted in many of these locations.

11 of the 27 locations where sand was the primary constituent had significant shell inclusions (SS05, SS06, SS07, SS08, SS09, SS10, SS11, SS19, SS23 and SS31).

4.2.2 Contaminant Distribution

Chemical summary tables and statistical results are provided in **Appendix D**.

Concentrations of all analytes in all samples tested were compliant with the applicable screening criteria except for arsenic, which marginally exceeded the criteria at SS04, SS09-1, SS18-1, and SS27-1. Statistical analysis of the arsenic dataset indicated the 95% UCL was 13.19, well below the screening criterion of 20 mg/kg.

Concentrations of aluminium were high in all samples tested; however, this was likely due to cutting of the aluminium cores.

Trace concentrations of PAHs benzo(b+j) & benzo(k)fluoranthene, coronene, benz(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, chrysene, dibenz(a,h)anthracene, fluoranthene, phenanthrene and pyrene were noted in sample SS18-1. Concentrations of benzo(a)pyrene were well below the applicable screening criteria.

4.2.3 Particle Size

Particle Size Distribution

Particle size density (PSD) was analysed at all locations where a core was retrieved. Table 4-1 summarises the percentage of all sediments less than 63.246 µm in diameter in cores where sand was the primary sediment constituent.

Table 4-1: Percentage of sediments less than 63.246 µm in diameter in cores where sand was the primary sediment constituent

Samples with 10% of all fines less than 63.246 µm in diameter	Samples with between 10% and 15% of all fines less than 63.246 µm in diameter	Samples with more than 15% of all fines less than 63.246 µm in diameter
SS03 – 4.82%	SS05 – 10.64%	SS01 – 15.36%
SS06 – 0%	SS07 – 14.2%	SS02 – 17.32%
SS10 – 5.95%	SS17 – 10.22%	SS04 – 39.98%
SS13 – 6.86%	SS21 – 12.2%	SS08 – 18.69%
SS16 – 6.62%	SS26 – 13.44%	SS09 – 42.39%
SS22 – 5.97%	-	SS11 – 61.9%
SS23 – 3.03%	-	SS12 – 39.16%
SS28 – 7.88%	-	SS14 – 24.89%
SS30 – 4.41%	-	SS15 – 32.18%
SS31 – 6.83%	-	SS19 – 38.84%
SS32 – 8.04%	-	SS24 – 17.44%

Based on Table 4-1, sediments at the locations in the left-hand column are likely to be suitable for dredging. Sediments at the locations in the middle column may be suitable for dredging however may require additional work to manage turbidity during site works. Sediments at the locations in the right-hand column are not suitable for dredging.

Settling Velocity

Settling velocities for 50% of the samples ranged from 6.59 x10^{-4} ms^{-1} in sample SS27 to 0.741 ms^{-1} in sample SS10. Settling velocities for 90% of the samples ranged from 4.41 x10^{-6} ms^{-1} in sample SS09 to 0.012 ms^{-1} in sample SS06.

Settling velocity results generally correlated with the particle size distribution results, where samples with a smaller percentage of sediments less than 63.246 µm in diameter settled quicker than samples with a higher percentage.

Figure 4-1 illustrates the relationship between the percentage of sediments less than 63.246 µm in diameter and the settling velocity of 90% of sediments in the sample collected.

4.2.4 Bulk Density

Bulk density ranged from 0.81 g/cm^3 at SS03 to 1.89 g/cm^3 at SS32.

Bulk density results may have been influenced by the vibracore drilling methodology. Sediments within the core may have been compacted when the core vibrated against hard ground before being retrieved.

4.2.5 Calcium Carbonate

The weight percentage (Wt%) of calcium carbonate ($CaCO_3$) was calculated for eight primary samples and another 9 additional bores. Results were as follows:

- 0-10 Wt%: SS30 (8.1 Wt%)
- 10-20 Wt%: SS05 (18.7 Wt%), SS13 (13.6 Wt%), SS17 (19.8 Wt%) and SS26 (18.4 Wt%), SS34 (13.2% Wt%), SS35 (18.2 Wt%), SS36 (15.2 Wt%), SS37 (14 Wt%), SS38 (18.7 Wt%), SS39 (17 Wt%), SS42 (14.5 Wt%)
- 20-30 Wt%: SS21 (23.4 Wt%), SS28 922.5 Wt%) and SS29 (29 Wt%), SS40 Wt%), SS41 (20.5 Wt%).

No samples had less than 5 Wt% total $CaCO_3$.

Total $CaCO_3$ results for each sample were very similar to the total shell grit %Wt results, suggesting the total $CaCO_3$ is likely to be heavily bound within the shell grit.

4.2.6 Aesthetics

Colour

Sediment colour generally ranged between brown, grey and olive brown. Darker grey/black layers generally coincided with organic fibre layers (e.g. black layer at SS12).

Shape

Sediment shapes were generally rounded or subrounded, however locations with significant inclusions (SS7, SS8, SS9, SS11, SS18 and SS19) were angular.

Odour

Hydrogen sulphide odour was noted at SS02, SS08, SS12, SS13, SS16, SS17, SS19, SS21 and SS26. The presence of odour generally coincided with the presence of organic fibres or fibre layers.

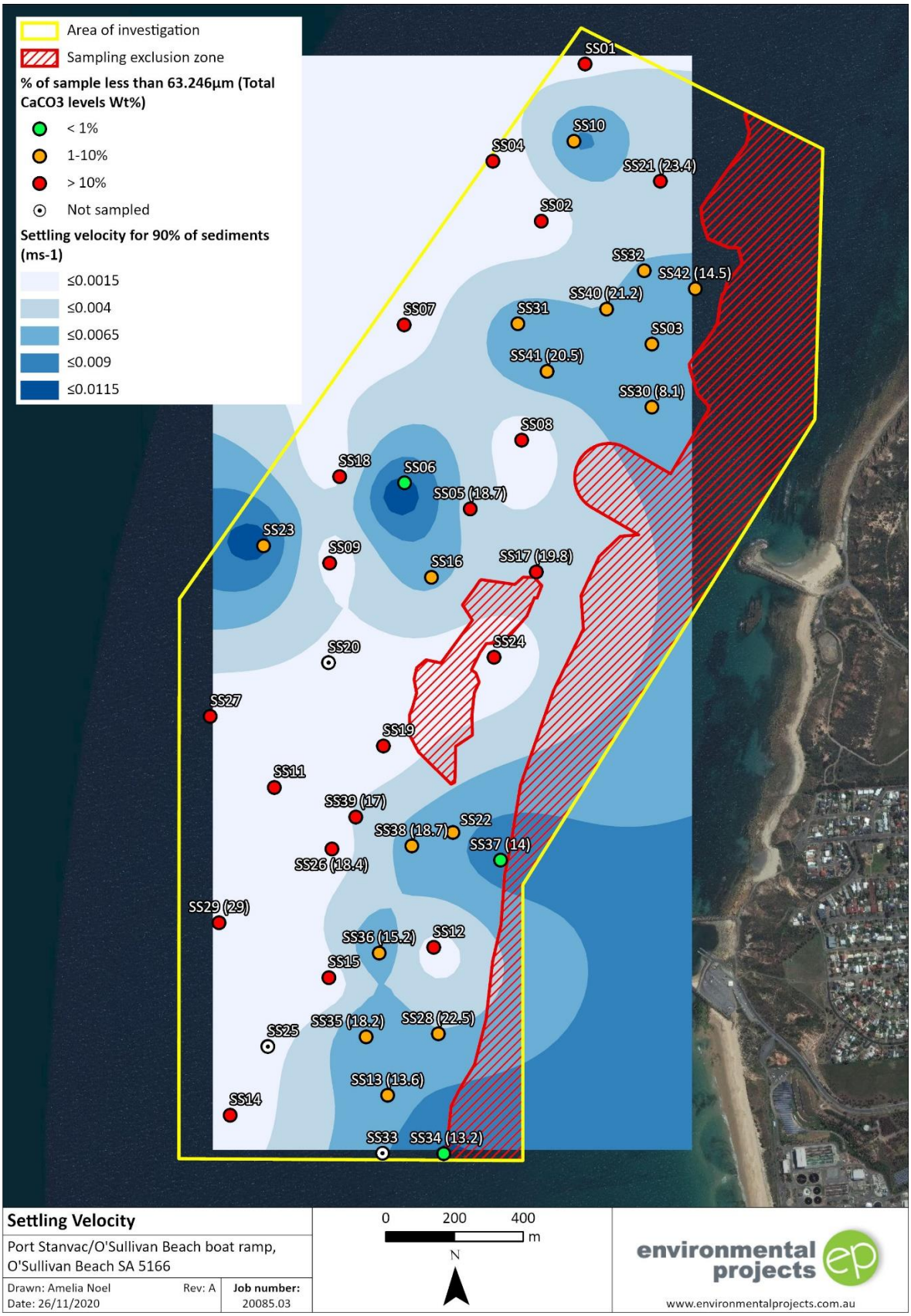


Figure 4-1: Settling Velocity Contour Plan

4.3 Data Validation

QA/QC requirements for this assessment are based on the requirements in the ASC NEPM and the NAGD, and are outlined in the quality assurance plan in **Appendix B**. The acceptance criteria for laboratory replicates and recoveries are detailed in Table 4-2.

Table 4-2: QC Sample Acceptable Limits

QC Sample	Minimum Frequency	Formula	Acceptable Limit
Blind-coded intra-laboratory field duplicates	1 in 20	Relative percent difference	-30% to +30%
Laboratory Control Sample	1 in 20	Standard Recovery	70% to 130%
Matrix Spikes	1 in 10	Standard Recovery	70% to 130%
Surrogate Spikes	1 in 10	Standard Recovery	70% to 130%
Inter-laboratory duplicates	1 in 20	Relative percent difference	30% to +30%
Field Split Sample	1 in 20	Relative percent difference	-50% to +50%
Laboratory Duplicate	1 in 20	Relative percent difference	<30%
Field Trip Blank	1 per batch of samples	Laboratory PQL	<PQL
Field Equipment Rinse	1 per day of sampling	Laboratory PQL	<PQL
Laboratory Method Blank	1 in 20	Laboratory PQL	<PQL
Holding Times	Every sample	-	All samples should be extracted and analysed within the hold times for the requested analytes
Completion (%)	-	Relative Completion	>90%

The RPD for a pair of duplicate concentrations was calculated using the formula:

$$RPD\ (\%) = 100(x1 - x2) / x$$

where x_1, x_2 = duplicate results and x = mean of duplicate results.

According to the ASC NEPM,

- typical RPD values for sediments are in the range of ±30%
- RPD's within the range were considered to show acceptable agreement and, conversely, data was considered to have relatively poor agreement where a RPD was outside this range.

Generally higher RPD values occur for organic compounds and where low concentrations of an analyte are recorded.

Intra-laboratory duplicate, rinsate and trip blank results are provided in **Appendix D**. The results of internal laboratory QC procedures are provided in the laboratory certificates provided in **Appendix E**. Table 4-3 details conformance to specific QA/QC requirements for the sediment assessment.

Table 4-3: Sediment Data Validation

QA/QC Requirement	Outcome	Comment
COC documentation completed	Yes	All samples were transported under EP COC procedures. A copy of each COC is provided in **Appendix E**.
Samples delivered to laboratory within sample holding times and with correct preservative	Yes	All samples were delivered to the laboratories within the sample holding times for the major analytes and in the appropriate laboratory-supplied containers. pH exceeded sample holding times in reports 249459, 249261 and 250072, however these exceedances were not considered to impact the overall quality of the dataset.
Limits of reporting (LOR) less than screening criterion	Yes	Laboratory LOR were below the screening criterion.
All analyses NATA accredited	Yes	Envirolab and ALS were NATA accredited for the analysis performed.
Equipment calibrations	N/A	No field equipment required calibration.
Intra-laboratory field duplicate testing frequency of at least 5% (1 in 20)	Yes	In accordance with AS 4482.1-2005 and the ASC NEPM, intra-laboratory duplicate testing frequency for key analytes complied with the required 5% (1 in 20) of primary samples tested.
Inter-laboratory field duplicate testing frequency of at least 5% (1 in 20)	No	No inter-laboratory duplicates were selected for analysis due to the nature of the fieldwork program and limited core recoveries. As the intra-laboratory duplicate testing frequency was within the recommended range, it was considered unlikely the analysis of inter-laboratory duplicates would have improved data quality.
A majority of intra-laboratory field duplicate samples reported RPDs within +/-30% recommended by ASC NEPM	Yes	All duplicate RPDs were within acceptable ranges except for: • SS08/Dup 1: selenium (67%) and vanadium (39%) • SS05/Dup 3: aluminium (46%), copper (46%), arsenic (41%), manganese (34%), nickel (32%) • SS37/Dup 1 (report 251890): Particles <=63.246 µm (197%) RPD exceedances were attributed to trace concentrations of analytes/attributes, resulting in large RPD differences for small actual differences.
Field trip blanks frequency of at least 1 per batch	Yes	One trip blank was included in each of the five sample batches. Concentrations of volatile contaminants below the laboratory LOR in all trip blank samples.
Equipment Rinsate Blank frequency of at least 1 per batch	Yes	Three equipment rinse samples were collected from the drilling cores. While this does not meet the minimum rinsate frequency, as the cores were all decontaminated by the driller prior to the fieldwork event and the cores were dedicated to each sample location, the omission of two rinsate samples is unlikely to have impacted data quality. Trace concentrations of heavy metals were detected in each of the rinsate samples. Trace concentrations of two TRH fractions were detected in EB1. Given the trace nature of the detections, and results of the overall analysis below the applicable screening criteria, the decontamination process was not considered to influence the outcome of the assessment.
Acceptable laboratory QC results	Yes	All laboratory duplicates, blanks, spikes, and control samples were within acceptable limits except for: Report 249459:

QA/QC Requirement	Outcome	Comment
		• spike recoveries of aluminium, iron, and total phosphorus in sample 249459-8. Report 249438: • duplicate RPDs for benzo(b,j+k)fluoranthene and indeno(1,2,3-c,d)pyrene for sample 249438-7 Report 249261: • spike recoveries for aluminium and iron in sample 249261-5.

Based on the outcomes presented in Table 4-3, EP considered that the data quality was acceptable for the purposes of this investigation.

5. ASSESSMENT OF RESULTS IN ACCORDANCE WITH GUIDELINES

As concentrations of all contaminant analytes in all samples tested were compliant with the applicable screening criteria, no additional analytical testing was required.

5.1 Summary of Results and Assessment of Dredging Suitability

Table 5-1 provides a summary of the results and an assessment of suitability for dredging at each sample location. Suitability for dredging was based on the requirements outlined in Section 4.1. PSD results that indicate:

- less than 1% of all sediment fines at that location are less than 63.246 µm in diameter are highlighted in **green** text and suggest sediments at that location may pose a low risk of causing long term impacts to water quality without additional management
- between 1% and 10% of all sediment fines at that location are less than 63.246 µm in diameter are highlighted in **orange** text and suggest sediments at that location may pose a moderate risk of causing long term impacts to water quality without additional management
- more than 10% of all sediment fines at that location are less than 63.246 µm in diameter are highlighted in **red** text and suggest sediments at that location may pose a high risk of causing long term impacts to water quality without additional management.

Table 5-1: Summary of Results and Assessment of Dredging Suitability

Location ID	Total Depth (mBGL)	Primary Sediment Constituent	Inclusions		Colour	Odour	Calcium Carbonate		Settling velocity (ms^{-1})		Bulk Density (g/cm^3)	PSD (% of all fines less than 63.246 µm in diameter)	Potential risk of harm to the environment without additional management during dredge works (SA EPA Dredge Guidelines 2020)	Recommended for dredging?
			Depth (mBGL) and Description	Shape			Shell grit (calculated Wt%)	Total $CaCO_3$ (calculated Wt%)	50% of sample	90% of sample				
SS1	0.35	Sand	Seagrass (whole core)	Rounded.	Brown grading to grey.	-	-	-	0.194	0.000149	1.15	15.36	High	Not likely to be suitable due to unacceptable PSD results and high settling velocity of 90% of the sample.
SS2	0.58	Sand	0.1 to 0.5: some rounded gravel and shell	Rounded.	Grey.	0 to 0.1: slight sulphur odour	-	-	0.0287	0.000132	1.27	17.32	High	Not likely to be suitable due to unacceptable PSD results and high settling velocity of 90% of the sample.
SS3	0.61	Sand	-	Rounded.	Brown grading to grey.	-	-	-	0.0185	0.00646	0.81	4.82	Moderate	Potentially suitable. Sand is the primary constituent with no inclusions. While PSD results are in the moderate range, they are still quite low. The settling velocity The suitability of sediments below 0.61 mBGL is unknown.
SS4	0.63	Sand	• 0 to 0.1: some shells • 0.23 to 0.33: sandy clay with subrounded rock fragments 1-5 cm diameter • 0.33 to 0.5: clay, gritty, friable with minute gastropods and shells • 0.58 to 0.63: clayey sand with bivalve shell wash.	Rounded and subrounded, coarse sands.	Brown grading to grey with olive to brown clay.	-	-	-	0.114	0.0000044	1.78	39.98	High	Not suitable due to significant inclusions, unacceptable PSD results and high settling velocity of 90% of the sample.
SS5	1.08	Sand	• 0.5 to 0.9: clayey silty sand with pockets of shells and fibres • 0.98 to 1.08: clayey sand with shells and fibres.	Subrounded.	Brown grading to dark grey grading to pale grey.	-	19.8	18.7	0.0653	0.00247	1.2	10.64	High	Not likely to be suitable. PSD may be acceptable with additional management, but inclusions may not be suitable for deposition. $CaCO_3$ levels are moderate to high. While it's likely carbonates are mostly present in shell grit, additional management may be required to manage aesthetic issues following deposition.
SS6	0.7	Sand	• 0 to 0.38: sand with occasional shell fragments • 0.38 to 0.42: sand with shell • 0.42 to 0.7: clay with pockets of sand, occasional shell grit and some gravel.	Subrounded.	Grey brown to olive brown.	-	-	-	0.0475	0.0124	1.15	0.01	Low	Likely to be suitable. Sand is the primary constituent with limited inclusions, acceptable PSD results and high settling velocity of 90% of the sample. The suitability of sediments below 0.7 mBGL is unknown.
SS7	0.5	Sand	• 0.15 to 0.19: black gravel calcrete • 0.19 to 0.5: sand with scattered shell grit/fine gravel, and loose calcrete gravel intermixed with shell and very coarse sand.	Subrounded grading to angular.	Brown grading to dark grey/black, grading to olive grey.	-	-	-	0.196	0.000809	1.36	14.2	High	Not likely to be suitable due to inclusions, shape, colour, and unacceptable PSD results.
SS8	1.96	Sand	• -0 to 0.23: sand with fine shells • 0.23 to 0.8: silty sand with fibrous grass and large shells • 0.8 to 1.8: gravelly shelly sand with significant shell hash, occasional calcrete nodules from 1.7 mBGL and gastropods.	Subrounded grading to angular, very sharp shells.	Brown, grading to grey.	Trace sulphur odour.	-	-	0.1939	0.000149	1.4	18.69	High	Not likely to be suitable due to inclusions, shape, colour, and unacceptable PSD results.
SS9	1.67	Sand	• 0.18 to 0.25: sand with intermixed calcareous nodules and bivalve rounded shells. • 0.25 to 0.9: clayey sand with small, rounded shells • 0.9 to 1.4: sand, gritty with shells layered horizontally • 1.4 to 1.46: clayey silty sand intermixed with small shells.	Rounded grading to subrounded. Gritty from 0.9 to 1.4 mBGL	Grey grading to green grey.	-	-	-	0.0112	0.0000044	1.44	42.39	High	Not suitable due to inclusions, shape, unacceptable PSD results and slow settling velocity of 90% of the sample.
SS10	1.08	Sand	• 0.18 to 0.39: sand with occasional shell fragments • 0.39 to 0.6: limestone, large sub-rounded to rounded pieces and broken shell fragments	Rounded to subrounded.	Olive grey grading to pale and dark grey	-	-	-	0.741	0.00805	1.35	5.95	Moderate	Potentially suitable. Sand is the primary constituent and PSD results are acceptable, however shell and gravel inclusions may not be suitable for deposition.

Location ID	Total Depth (mBGL)	Primary Sediment Constituent	Inclusions		Colour	Odour	Calcium Carbonate		Settling velocity (ms^{-1})		Bulk Density (g/cm^3)	PSD (% of all fines less than 63.246 µm in diameter)	Potential risk of harm to the environment without additional management during dredge works (SA EPA Dredge Guidelines 2020)	Recommended for dredging?
			Depth (mBGL) and Description	Shape			Shell grit (calculated Wt%)	Total $CaCO_3$ (calculated Wt%)	50% of sample	90% of sample				
			• 0.6 to 0.8: sand with occasional shells • 0.8 to 1: coarse to very coarse shelly sand with fine gravel • 1 to 1.08: sand with shell fragments.		and green grey.									
SS11	2.05	Sand	• 0.2 to 0.3: sand with large shell fragments. • 0.3 to 0.5: sand with shell fragments • 0.5 to 0.55: silty sand with occasional shell grit • 0.55 to 0.9: sand with shells and calcrete gravel • 0.9 to 1.1: sand with some clay intermixed with shells • 1.1 to 1.35: sand with shell fragments • 1.35 to 1.4: gravel.	Rounded grading to subrounded and angular.	Brown, grey/green, yellow brown/grey brown, yellow brown/grey, yellow.	-	-	-	0.000804	0.0000099	0.9	61.9	High	Not suitable due to inclusions, shape, unacceptable PSD results and slow settling velocity of 90% of the sample.
SS12	0.98	Sand	• 0.25 to 0.3: fibres • 0.3 to 0.35: shell fragments	Rounded	Olive brown, grey to black, grading to black grading to brown/dark grey.	Hydrogen sulphide odour to 0.22 mBGL.	-	-	0.0363	0.0000104	0.93	39.16	High	Not suitable due to inclusions, odour, unacceptable PSD results and slow settling velocity of 90% of the sample.
SS13	0.85	Sand	Rare fibre pockets and occasional shell fragments	Rounded	Grey	Hydrogen sulphide odour at base.	14.5	13.6	0.0189	0.00556	1.7	6.86	Moderate	Sand is the primary constituent with limited inclusions. PSD results are likely to be suitable with additional management. $CaCO_3$ concentrations may not be aesthetically suitable for deposition and management of hydrogen sulphide odour may be required for deeper dredging. The combination of management for turbidity, $CaCO_3$ and odour may inhibit the viability of dredging at this location. The suitability of sediments below 0.85 mBGL is unknown.
SS14	0.35	Sand	• 0-0.05: fine gravel • 0.1 to 0.2: organic debris and shells • 0.23 to 0.3 quartz shell (rounded)	Rounded	Brown grading to dark grey grading to grey brown.	-	-	-	0.0438	0.0000337	1.38	24.89	High	Not likely to be suitable due to inclusions, unacceptable PSD results and slow settling velocity of 90% of the sample.
SS15	0.39	Sand	-	Rounded	Grey grading to brown	-	-	-	0.0243	0.0000087	-	32.18	High	Not suitable due unacceptable PSD results and slow settling velocity of 90% of the sample.
SS16	0.91	Sand	• 0.1 to 0.91: very rare shell fragments and scattered fibres. Coase sand lenses • 0.65 to 0.75: fibre layer	Rounded.	Brown grading to brown/grey, grading to grey.	Slight hydrogen sulphide odour in fibre layer.	-	-	0.0241	0.00567	1.32	6.62	Moderate	Potentially suitable. Sand is the primary constituent with limited inclusions and acceptable PSD results. Management of hydrogen sulphide odour may be required in the fibre layer. The suitability of sediments below 0.91 mBGL is unknown.
SS17	1.15	Sand	Very fine sediments at depth.	Rounded.	Brown grading to grey, grading to olive grey.	Slight odour.	20.5	19.8	0.259	0.00294	1.49	10.22	High	Sand is the primary constituent and PSD results are only slightly above the moderate risk range. Additional management may be required to manage turbidity during dredging. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shell grit, additional management may be required to manage aesthetic issues following

Location ID	Total Depth (mBGL)	Primary Sediment Constituent	Inclusions: Depth (mBGL) and Description	Inclusions: Shape	Colour	Odour	Calcium Carbonate: Shell grit (calculated Wt%)	Calcium Carbonate: Total $CaCO_3$ (calculated Wt%)	Settling velocity (ms^{-1}): 50% of sample	Settling velocity (ms^{-1}): 90% of sample	Bulk Density (g/cm^3)	PSD (% of all fines less than 63.246 µm in diameter)	Potential risk of harm to the environment without additional management during dredge works (SA EPA Dredge Guidelines 2020)	Recommended for dredging?
														deposition. The suitability of sediments below 1.15 mBGL is unknown.
SS18	1.8	Clay	• 0 to 0.1: occasional shell fragments • 0.1 to 0.25: calcareous nodules • 0.25 to 0.5: some fibres • 0.5 to 0.75: rare shells, occasional gravel size cemented clay/sand • 1.07 to 1.3: shell lenses becoming more concentrated with depth • 1.33 to 1.7: occasional shells • 1.7 to 1.8: cemented fragments	Subrounded to angular.	Brown grading to olive grey grading to dark grey.	-	-	-	0.0398	0.0000049	1.22	35.14	High	Not suitable due to inclusions, unacceptable PSD results and slow settling velocity.
SS19	1.33	Sand	• 1.7 to 0.3: sand with shell fragments • 0.3 to 0.45: silty sand with moderately to poorly sorted shell fragments • 0.45 to 0.92: silty sand, uniform with shell fragments • 0.92 to 1.2: silty sand with shells, sand, and gravel in alternate layers • 1.2 to 1.33: shell grit.	Subrounded to angular.	Brown grading to grey brown, grading to dark grey, grading to olive brown	-	-	-	0.304	0.0000202	-	38.84	High	Not suitable due to inclusions, unacceptable PSD results and slow settling velocity.
SS21	1.05	Sand	• 0.2 to 0.3: seagrass fibres • 0.3 to 0.6: large shell pockets • 0.6 to 0.95: seagrass fibres	Rounded to subrounded.	Grey.	Slight sulphur odour.	24.8	23.4	0.0225	0.00213	1.33	12.2	High	Not likely to be suitable due to high PSD results, high $CaCO_3$ content and organic odour.
SS22	1.57	Sand	• 0.4 to 0.95: some shell grit • 0.95 to 1.57: shell grit, some rocks	Rounded to subrounded.	Grey grading to brown.	-	-	-	0.0305	0.00631	1.74	5.97	Moderate	Potentially suitable. Sand is the primary constituent and PSD results are acceptable, however shell and rock inclusions may not be suitable for deposition. Inclusions were only present below 0.4 mBGL.
SS23	0.35	Sand	0.3 to 0.35: shells.	Rounded to subrounded.	Dark grey grading to brown.	-	-	-	0.0866	0.0114	-	3.03	Moderate	Likely to be suitable with additional management. Sand is the primary constituent with limited inclusions. While PSD results and acceptable PSD results. The suitability of sediments below 0.35 mBGL is unknown.
SS24	1.15	Sand	• 0.25 to 0.65: occasional scattered shells, organic fibre clumps • 0.65 to 1: fine to very fine sand with coarse grained bands.	Rounded.	Grey grading to brown, grading to dark grey.	-	-	-	0.0196	0.0000994	1.36	17.44	High	No due to inclusions and unacceptable PSD results.
SS26	0.91	Sand	Organic content.	Rounded.	Dark grey.	Slight sulphur odour.	19.4	18.4	0.0149	0.000236	1.23	13.44	High	Potentially. Sand is the primary constituent and PSD results are only slightly above the acceptable range. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shell grit, additional management may be required to manage aesthetic issues following deposition. Additional management may also be required to manage turbidity and hydrogen sulphide odour during dredging.
SS27	1.04	Clay	• 0 to 0.25: rare shell fragments • 0.25 to 0.45: shell grit, occasional large shells • 0.6 to 0.85: pockets of fibres.	Subrounded.	Brown grading to olive grey, grading to olive.	Hydrogen sulphide odour.	-	-	0.000659	0.0000104	1.86	62.41	High	No due to inclusions, odour, and unacceptable PSD results.
SS28	1.47	Sand	0.15 to 1.47: occasional scattered shells and fibres.	Rounded to subrounded.	Brown/grey grading to grey, slight	-	24.1	22.5	0.0181	0.00481	1.4	7.88	Moderate	Likely. Sand is the primary constituent with limited inclusions and acceptable PSD results. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in

Location ID	Total Depth (mBGL)	Primary Sediment Constituent	Inclusions		Colour	Odour	Calcium Carbonate		Settling velocity (ms^{-1})		Bulk Density (g/cm^3)	PSD (% of all fines less than 63.246 µm in diameter)	Potential risk of harm to the environment without additional management during dredge works (SA EPA Dredge Guidelines 2020)	Recommended for dredging?
			Depth (mBGL) and Description	Shape			Shell grit (calculated Wt%)	Total $CaCO_3$ (calculated Wt%)	50% of sample	90% of sample				
					brown (organic) staining at 0.7 mBGL.									shell grit, additional management may be required to manage aesthetic issues following deposition. Potential management may be required to manage the organic stained layer and $CaCO_3$. The suitability of sediments below 1.47 mBGL is unknown.
SS29	1.6	Clay	• 0 to 0.35: occasional shell fragments • 0.35 to 0.7: occasional fibres and scattered large shell fragments • 0.7 to 1.1: fibres and large shells increasing with depth • 1.01 to 1.02: shells • 1.02 to 1.23: fine grounded gravel • 1.23 to 1.4: intermixed bricks, fine gravel, black shell fragments and organic staining • 1.4 to 1.6: intermixed with shells.	Subrounded.	Olive grey grading to grey brown grading to grey.	-	30.2	29	0.04378	0.000232	1.2	14.7	High	No due to inclusions and unacceptable PSD results. While $CaCO_3$ levels are high, it's likely carbonates are mostly present in shell grit.
SS30	1	Sand	• 0.23 to 0.4: small shell fragments • 0.4 to 1: pockets of rounded shell fragments.	Rounded.	Grey grading to brown, grading to grey and olive grey.	-	8.5	8.1	0.0245	0.00675	1.42	4.41	Moderate	Likely to be suitable. Sand is the primary constituent with limited inclusions and acceptable PSD results. $CaCO_3$ levels are low and are unlikely to be significant risk of carbonate plumes after deposition on the beach. The suitability of sediments below 1 mBGL is unknown.
SS31	0.43	Sand	0.3 to 0.43: silty sand with large bivalve shell fragments intermixed with fibres.	Rounded.	Brown, grey/olive grey brown grading to pale grey.	-	-	-	0.0979	0.00619	-	6.83	Moderate	Likely to be suitable. Sand is the primary constituent with limited inclusions and acceptable PSD results. The suitability of sediments below 0.43 mBGL is unknown.
SS32	1.23	Sand	• 0.1 to 0.4: very rare shells • 0.4 to 0.7: some gravel • 0.7 to 1.23: occasional seagrass clumps and rare gravel fragments.	Rounded	Brown grading to dark grey	-	-	-	0.449	0.00471	1.89	8.04	Moderate	Likely to be suitable. Sand is the primary constituent with limited inclusions and acceptable PSD results. The suitability of sediments below 1.23 mBGL is unknown.
SS34	0.27	Sand	-	Rounded	Grey.	-	14.1	13.2	0.0280	0.00985	1.3	0	Low	Likely to be suitable. Sand is the primary constituent with limited inclusions, acceptable PSD results and high settling velocity of 90% of the sample. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shellgrit, additional management may be required to manage aesthetic issues following deposition. The suitability of sediments below 0.27 mBGL is unknown.
SS35	0.73	Sand	0.5 to 0.73: fibres, some shell fragments.	Rounded	Brown becoming grey with depth.	-	19.4	18.2	0.0208 0.0252	0.00741 0.00524	1.7	0.15 7.61	Low to moderate	Likely to be suitable. Sand is the primary constituent with limited inclusions, acceptable PSD results and high settling velocity of 90% of the sample. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shellgrit, additional management may be required to manage aesthetic issues following deposition. The suitability of sediments below 0.73 mBGL is unknown.
SS36	0.77	Sand	Pockets of shell fragments, becoming coarser with depth.	Rounded	Brown at top becoming grey with depth.	-	14.0	15.2	0.0208 0.0171	0.00683 0.00440	1.4	4.07 9.09	Moderate	Likely to be suitable. Sand is the primary constituent with limited inclusions, PSD results in the moderate risk range and high settling velocity of 90% of the sample. The suitability of sediments below 0.77 mBGL is unknown.

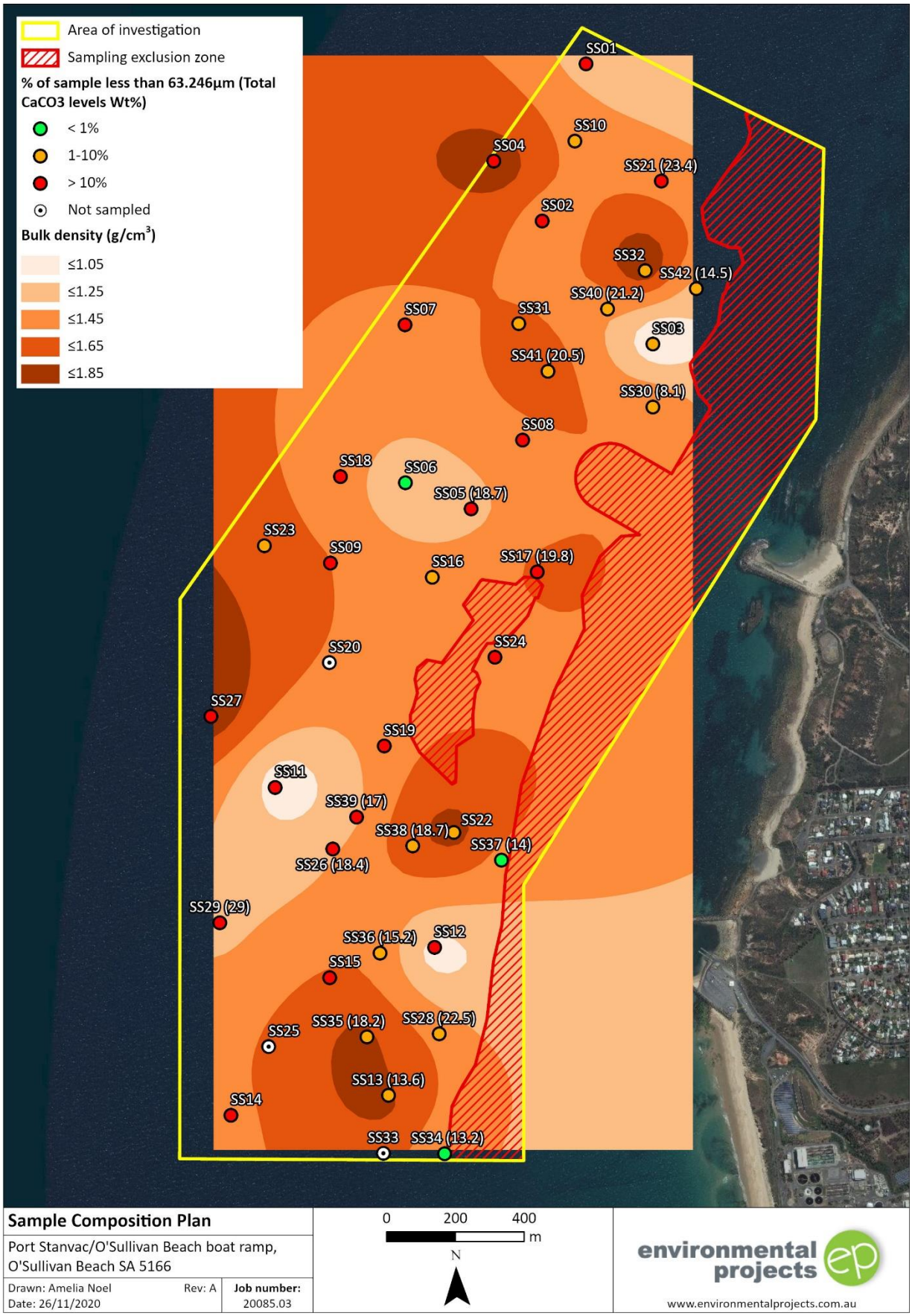
Location ID	Total Depth (mBGL)	Primary Sediment Constituent	Inclusions		Colour	Odour	Calcium Carbonate		Settling velocity (ms^{-1})		Bulk Density (g/cm^3)	PSD (% of all fines less than 63.246 µm in diameter)	Potential risk of harm to the environment without additional management during dredge works (SA EPA Dredge Guidelines 2020)	Recommended for dredging?
			Depth (mBGL) and Description	Shape			Shell grit (calculated Wt%)	Total $CaCO_3$ (calculated Wt%)	50% of sample	90% of sample				
SS37	0.98	Sand	Some fibres, pockets of organics.	Rounded	Grey.	-	15.2	14	0.0293	0.00881	1.4	0.03	Low	Likely to be suitable. Sand is the primary constituent with limited inclusions, acceptable PSD results and high settling velocity of 90% of the sample. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shellgrit, additional management may be required to manage aesthetic issues following deposition. The suitability of sediments below 0.98 mBGL is unknown.
SS38	0.45	Sand	Some shell fragments.	Rounded	Dark grey pockets.	-	20.0	18.7	0.0183	0.00550	1.6	6.16	Moderate	Likely to be suitable. Sand is the primary constituent with limited inclusions, PSD results in the moderate risk range and high settling velocity of 90% of the sample. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shellgrit, additional management may be required to manage aesthetic issues following deposition.
SS39	0.39	Sand	-	Rounded	-	-	18.2	17	0.0147	0.00224	1.2	14.03	High	Potentially. Sand is the primary constituent. While PSD results are in the high range, they are not significantly high. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shellgrit, additional management may be required to manage turbidity during dredging, and aesthetic issues following deposition.
SS40	0.71	Sand	• 0.4 to 0.5: coarse sand • 0.5 to 0.71: clay content increasing with shell fragments.	Rounded	-	-	22.5	21.2	0.0180	0.00445	1.3	8.38	Moderate	Likely to be suitable. Sand is the primary constituent with limited inclusions, PSD results in the moderate risk range and high settling velocity of 90% of the sample. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shellgrit, additional management may be required to manage aesthetic issues following deposition.
SS41	0.42	Sand	• Minor shell fragments.	Rounded	Grey.	-	21.9	20.5	0.0191	0.00641	1.6	4.72	Moderate	Likely to be suitable. Sand is the primary constituent with limited inclusions, PSD results in the moderate risk range and high settling velocity of 90% of the sample. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shellgrit, additional management may be required to manage aesthetic issues following deposition.
SS42	0.51	Sand	• 0.48 to 0.51: fibres, some shells.	Rounded	Grey.	-	15.7	14.5	0.0160	0.00543	1.2	6.88	Moderate	Likely to be suitable. Sand is the primary constituent with limited inclusions, PSD results in the moderate risk range and high settling velocity of 90% of the sample. $CaCO_3$ levels are high. While it's likely carbonates are mostly present in shellgrit, additional management may be required to manage aesthetic issues following deposition.

5.2 Location of Potential Sand Fields

Based on the sediment logs in **Appendix B** and the summary information in Table 5-1:

- SS03, SS06, SS13, SS16, SS28, SS30 and SS32 had sand as the primary sediment constituent with minimal inclusions and less than 10% of sediments below 63.246 µm in diameter
  - management of a slight hydrogen sulphur odour at SB16 may be required during dredging and deposition works
  - management of an organic staining layer and slightly elevated $CaCO_3$ levels may be required at SB28 during dredging and deposition works
  - SS10 had less than 10% of sediments below 63.246 µm in diameter, however significant rounded to subrounded inclusions were noted in the core
  - SS22 less than 10% of sediments below 63.246 µm in diameter, however significant shell and rock were noted in the core
- SS05, SS07, SS17, SS21, and SS26 had sand as the primary sediment constituent with minimal inclusions and less than 15% of sediments below 63.246 µm in diameter
  - SS17 had only slightly more than 10% of sediments below 63.246 µm in diameter (10.22 %)
  - SS26 had only slightly more than 10% of sediments below 63.246 µm in diameter, however the colour and $CaCO_3$ levels may be aesthetically unsuitable for deposition. Additional management may be required to manage turbidity and hydrogen sulphide odour during dredging
  - while only slightly more than 10% of sediments below 63.246 µm in diameter in SS05, inclusions in the core may not be suitable for deposition
  - 12.2% of sediments in SS21 were below 63.246 µm in diameter and $CaCO_3$ levels are high, suggesting the material may not be suitable for dredging or deposition
- while sand was the primary constituent at SS01, SS02, SS04, SS08, SS09, SS11, SS12, SS14, SS15, SS19 and SS24, more than 15% of sediments below 63.246 µm in diameter.

Figure 5-1 below illustrates the bulk density and PSD results (% of sediment less than 63.246 µm in diameter) and the lithology identified in the sediment logs.



Sample Composition Plan

Port Stanvac/O'Sullivan Beach boat ramp, O'Sullivan Beach SA 5166

Drawn: Amelia Noel Rev: A Job number: 20085.03
Date: 26/11/2020

Figure 5-1: Sample Composition Plan

6. CONCLUSIONS

EP were commissioned by DEW to prepare a SAP report for sediment sampling undertaken offshore at Port Stanvac, South Australia.

The objectives of the SAP report were to:

- determine the range of grain sizes of the potential sand source
- test the assumption that marine sediment is not contaminated by elevated levels of naturally occurring contaminants or by human activity
- maximise the amount and quality of information about the sediment
- implement field and laboratory quality assurance and quality control measures and procedures.

Concentrations of all analytes in all samples tested were complaint with the applicable screening criteria, indicating the sediments selected for analysis had not been contaminated by the potentially contaminating activities or activities of environmental significance that were identified nearby.

Based on the physical and aesthetic results:

- there is generally a moderate to high risk of harm to water quality due to turbidity without additional management during dredging works across the site
- SS06 had sand as the primary sediment constituent with minimal inclusions and less than 1% of sediments below 63.246 µm in diameter, suggesting sands at these locations are likely to be suitable for dredging and deposition on West Beach and Henley Beach South with minimal turbidity management during dredging works
- SS03, SS13, SS16, SS28, SS30 and SS32 had sand as the primary sediment constituent with minimal inclusions and between 1% and 10% of sediments below 63.246 µm in diameter, suggesting sands at these locations are likely to be suitable for dredging and deposition on West Beach and Henley Beach South:
  - sands at these locations likely pose a moderate risk of environmental harm to water quality due to turbidity without additional management during dredging and deposition works
  - management of a slight hydrogen sulphur odour at SB16 may also be required during dredging and deposition works
  - management of an organic staining layer and slightly elevated $CaCO_3$ levels may also be required at SB28 during dredging and deposition works
  - SS10 and SS22 had less than 10% of sediments below 63.246 µm in diameter, however significant inclusions may prohibit deposition of these materials.
- SS17 (10.22%) and SS7 (14.2%) had sand as the primary sediment constituent and only slightly more than 10% of sediments below 63.246 µm in diameter (10.22 %) and is likely suitable for dredging and deposition onto West Beach and Henley Beach South. Sands at these locations likely pose a high risk of environmental harm to water quality due to turbidity without additional management during dredging and deposition works

- SS26 had sand as the primary constituent and only slightly more than 10% of sediments below 63.246 µm in diameter, however the colour and $CaCO_3$ levels may be aesthetically unsuitable for deposition on West Beach and Henley Beach South

- while only slightly more than 10% of sediments below 63.246 µm in diameter in SS05, inclusions in the core may not be suitable for deposition on West Beach and Henley Beach South

- 12.2% of sediments in SS21 were below 63.246 µm in diameter and $CaCO_3$ levels are high, suggesting the material may not be suitable for dredging or deposition on West Beach and Henley Beach South

- SS01, SS02, SS04, SS08, SS09, SS11, SS12, SS14, SS15, SS19 and SS24 had sand as the primary sediment constituent however more than 15% of sediments were below 63.246 µm in diameter. Sands at these locations likely pose a high risk of environmental harm to water quality due to turbidity without significant management during dredging and deposition works.

- clay was the primary constituent at SS14, SS27 and SS29, therefore sediments at these locations are not suitable for deposition on West Beach and Henley Beach South due to the high clay content.

These conclusions and recommendations must be read in conjunction with the limitations in Section 7.

7. LIMITATIONS

Scope of Services

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

Reliance on Data

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

Environmental Conclusions

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

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

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

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

Report for Benefit of Client

The report has been prepared for the benefit of the client and no other party. Environmental Projects assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitations matters arising from any negligent act or omission of Environmental Projects or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the

report or the accuracy or completeness of any conclusion and should make their own enquiries and obtain independent advice in relation to such matters.

Other Limitations

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

Appendix A

Figures

Figure 1 **Site Location Plan**

Port Stanvac/O'Sullivan Beach boat ramp,
O'Sullivan Beach SA 5166

Drawn: Amelia Noel Rev: A
Date: 23/10/2020

Job number:
20085.02

0 2 4 km

N

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Figure 2 **Proposed sand deposition area**

West Beach SA 5024

Drawn: Amelia Noel Rev: A
Date: 22/10/2020

Job number: 20085.02

0 1 2 km

N

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Appendix B

Regulatory Guidance, the Quality Assurance Plan, and the Sampling, Analysis and Quality Plan

Regulatory Guidance

Intrusive assessment of sediments at the subject site was completed with reference to the guidance in the following publications:

- Friebel E and Nadebaum P (2011) Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater: Part 2 Application Document, Technical Report No 10, CRCCARE Adelaide
- ASC NEPM, as amended in 2013. Schedules B (1), B(2), B(4)
- Standards Australia, AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil Part 1: Non-volatile and semi-volatile compounds
- Standards Australia AS 4482.2-1999 Guide to the investigation of potentially contaminated soil – Part 2: Volatile substances.

Quality Assurance Plan

The table below compares each DQI with the relevant QA and/or QC component that is required to achieve a reliable data set. The QA and QC components are the performance criteria for this assessment. If QA and QC components (and therefore the data quality indicators (DQI's)) are not achieved, further assessment may be required to determine whether the non-conformance will significantly affect data reliability.

Quality Assurance Plan

Assessment Component	QA Component		QC Component	
	QA Component	**DQI Addressed**	**QC Component**	**DQI Addressed**
Sediment bores	Suitably experienced driller	Representativeness	-	-
	Sediment bore details recorded on log sheet	Representativeness and Completeness	-	-
	Standard operating procedure (SOP) followed	Comparability	-	-
Soil lithology recording	Suitably experienced and trained field personnel	Accuracy, representativeness, comparability and completeness	-	-
	Lithology and observations recorded on soil log sheet	Representativeness and comparability	-	-
	Photographs of sediment bores and site.	Representativeness and comparability	-	-
Sample collection	Standard operation procedures followed	Comparability	-	-
	Suitably experienced and trained field personnel	Accuracy, representativeness, comparability and completeness	-	-

	All sampling equipment decontaminated prior to use (by field personnel and/or rental company if applicable) and between sample locations and consumables changed between locations	Accuracy, representativeness, completeness	Equipment rinsate blank samples	Precision
	Measurement equipment calibrated	Accuracy, precision	Calibration records	Accuracy, precision
Sample preservation	Laboratory supplied sample containers only, pre-dosed with preservative where required	Precision, comparability, completeness	Recommended sample holding times met	Completeness
	Standard operating procedures followed	Comparability	-	-
Sample handling and transportation	Chain of custody documentation used	Accuracy	Trip blank samples	Accuracy, precision
Laboratory analysis	NATA accredited laboratories used	Precision, accuracy, comparability, completeness	Intra-laboratory and inter-laboratory field duplicate samples	Precision and accuracy
			Internal laboratory duplicates, matrix spikes and surrogate spikes	Precision, completeness

Sampling, Analysis and Quality Plan

The SAQP ensures the data collected is representative of the site and provides a robust basis for assessment decisions. The ASC NEPM outlines the general requirements of a SAQP and assessment-specific details are provided in the SAQP Summary table below.

SAQP Summary

ASC NEPM SAQP Requirement	Assessment-Specific Details and/or Section Addressed
Site investigation objectives and a brief background	DEW, via the Securing the Future of our Coastline project, is committed to delivering external sand to the Adelaide Metropolitan Coast, particularly along West Beach and Henley Beach South. Recent bathymetric mapping and profiling indicate large volumes of sand is present to the west of Port Stanvac that varies in depths from 0.5 m to 4.8 m. Sediment sampling was required to determine the material's suitability for beach replenishment. The proposed dredge area is a 5 km^2 portion of the seabed west of Port Stanvac (see Figure 1, **Appendix A**). The maximum dredge depth will be 3 mBGL. The objectives were to: • determine the range of grain sizes of the potential sand source • test the assumption that marine sediment is not contaminated by elevated levels of naturally occurring contaminants or by human activity

ASC NEPM SAQP Requirement	Assessment-Specific Details and/or Section Addressed
	• determine waste classification (as defined by SA EPA) for reuse of sediment as fill on land • maximize the amount and quality of information about the sediment • implement field and laboratory quality assurance and quality control measures and procedures.
A summary of the conceptual site model (CSM)	No CSM has been completed, however known potentially contaminating activities and activities of environmental significance in the area include: • the former Mobil refinery (and the demolished jetty structure) • the O'Sullivan Beach boat ramp • the Christies Beach Sewerage Treatment Plant • The Desalination plant.
A review of existing information indicating reliability and usability of any existing data (data gap analysis)	Limited sediment sampling has been undertaken previously within the proposed assessment boundaries as part of the Desalination Plant construction "Sediment Assessment Report, Port Stanvac, South Australia", Environmental Projects, 2008 (EP 2008). The southern portion of the investigation area has been dredged previously. EP 2008 core data (which included five core locations (VC12, VC16, VC19-VC21) taken form the northern portion of the proposed dredge area) suggests that the primary sediment unit is a Sand unit lying above a presumed Calcarenite unit (base). The primary Sand unit thins and thickens across the site with a prominent outcrop of basement occurring in the north east corner of the survey block and a smaller area towards the centre of the block. One 2008 core location in the centre north of the proposed dredge area identified a c\Clay and mixed Clay/Silt/Sand unit representing Holocene coastal lagoon and estuarine sediments. The results of the 2008 assessment suggested that: • anthropogenic material suggestive of potential contamination was not present within sediment • the 95% upper confidence limits (UCL) about the mean concentrations for all metals were below the then National Ocean Disposal Guideline for Dredged Material (NODGDM) 2002 screening levels • all other target analytes (including PAH, tri-butyl tin (TBT) and TOC based on site history) had concentrations below the laboratory limit of reporting (LOR). While this information is useful for this assessment, more data is required to inform decisions regarding potential dredge areas.
DQO's including a quality assurance plan and details of quality control samples to be collected	• steps 1-6 of the DQO process are outlined in the ASC NEPM • a quality assurance plan is provided in the table above • summary of quality control samples to be collected is provided in Table 4-2
Pre-mobilisation tasks	• preparation of a site-specific Environment, Health and Safety (EHS) plan • liaison with driller and DEW regarding weather conditions • ordering sampling equipment.
Media to be sampled	Sediment
Analytes and parameters to be assessed	The following target analytes were to be selected for analysis at the primary laboratory: • 32 samples: metals, petroleum hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), phenolics, volatile chlorinated hydrocarbons (VOCs), chlorobenzenes, per- and poly-fluoroalkyl substances (PFAS), Nutrients, pH, particle size distribution (PSD) and settling rate, bulk density • 8 samples: calcium carbonate, total organic carbon (TOC)

ASC NEPM SAQP Requirement	Assessment-Specific Details and/or Section Addressed
	• two samples: organochlorine pesticides, chlorinated organics, non-organochlorine pesticides, dioxins, organotin compounds and cyanides.
Frequency and pattern of sampling	The proposed dredge program is planned to recover up to 600,000 m^3 of relatively fine sand (suitable for beach replenishment) with minor silt, clay, or shell inclusions (particle size limitation is required in part to minimise the potential for turbidity plumes during dredging). Based on guidance in Table 6 of the National Assessment Guidelines for Dredging, the sampling plan requires collection of samples from 32 locations spaced over a 160 square grid, with bias where required to avoid obstructions, reefs, and shallow sand and in water deeper than 10 metres.
Number, location and depth of sampling points	All samples were collected from sediments beneath the seabed. Location ID's and the location coordinates are summarised in Table 3-1: Sediment Sampling Methodology.
Sampling and field screening methods and procedures	Sampling methodologies are outlined in detail in Table 3-1.
Analysis methods	Samples will be analysed at a NATA accredited laboratory.
Methods for analysing and interpreting field data obtained	See laboratory certificates in **Appendix D**.

Sediment Assessment Rationale

To meet the objectives of the assessment, samples were to be collected that represent materials suitable for use in the beach replenishment program (i.e. to the maximum proposed dredging depth of 3 metres below the seabed).

Based on assumed low levels of stratification, but potential lateral variance in both chemical and physical characteristics, the sampling strategy maximises sample locations rather than vertical distribution of samples at each location. The optimal sampling plan is to collect a minimum of four samples from representative strata within 32 cores at grid spacing across the proposed dredge area.

The cores are selected to represent different substrates and depths below the seabed. The sediment samples from the core need to represent the sediment profile.

Appendix C

Sediment Logs

ENVIRONMENTAL SOIL BORE SS01

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 26/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.35 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND: coarse grained, brown.	W	No odour noted, some seagrass fibres present.
	SS01-1 COMBINED			Silty SAND, grey brown, shell (one).	W	
0.2	SS01-2 PFAS					SS01 (bulk density: 0.15 - 0.35 mBGL)
						SS01 (PSD composite - whole core)
				CLAY, low plasticity, grey.	W	
0.4				Refusal at 0.35 mBGL.		
0.6						
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS02

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 26/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.58 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				Silty SAND, very fine grained, slight sulphur odour.	W	
	SS02-1 COMBINED			SAND, medium grained, grey, some rounded gravel, shell.	W	
0.2	SS02-2 PFAS					
						SS02 (bulk density)
0.4						
				Clayey SAND, grey, organic fibres.	W	SS02 (PSD composite - whole core)
0.6				Refusal at 0.58 mBGL.		
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 09 Oct 2020

ENVIRONMENTAL SOIL BORE SS03

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 26/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.61 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS03-1 COMBINED			SAND, coarse grained, brown.	W	No odour noted.
	SS03-2 PFAS			SAND, very fine grained, grey, uniform, silty. Good sand.	W	
0.2						SS03 (bulk density)
0.4						
0.6						SS03 (PSD composite - whole core)
				End of hole at 0.61 mBGL.		
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS04

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 09/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.63 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS04-1 COMBINED			SAND, fine to medium grained, brown to greyish brown, slight silt content, some shells.	W	
	SS04-1 PFAS			SAND, medium to coarse grained, grey to dark grey. Pockets of olive grey clay.	W	
0.2				Sandy CLAY, olive to brown grey, subrounded rock fragments 1-5 cm in diameter.	W	SS04 (bulk density: 0.2 - 0.6 mBGL)
0.4				CLAY, gritty, olive, friable (minute gastropods), some shells, cohesive.	W	
				SAND, medium to coarse sand lens.	W	SS04 (PSD composite - whole core)
0.6				Clayey SAND matrix, bivalve shell wash.	W	
				End of hole at 0.63 mBGL.		
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS05

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 09/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.08 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, brown.	W	
				SAND, very fine grained, dark grey, uniform, well sorted, very rare shell fragments.	W	
	SS05-1 COMBINED	DUP 3				
0.2	SS05-1 PFAS	DUP 3				
0.4				SAND, medium to coarse grained, dark grey, slightly silty.	W	SS05 (bulk density)
0.6				Clayey Silty SAND, very fine to medium grained, dark grey, scattered fibres.	W	
				Darker grey at 0.74 mBGL.		
0.8				Pockets of shells and fibres.		
				Silty SAND, fine to medium grained sand, dark grey, firm, friable.	W	
1				Clayey SAND, pale grey, slightly silty, shells, fibres.	W	SS05 (PSD composite - whole core)
				End of hole at 1.08 mBGL.		
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS06

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 05/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.7 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS06-1 COMBINED			SAND, very fine to fine grained, mottled brown grey to olive brown, slightly silty, occasional shell fragments.	W	
	SS06-1 PFAS					
0.2						SS06 (bulk density)
0.4				SAND, fine to coarse grained, grey, shell and sand lens.	W	
				CLAY, medium plasticity, grey brown to olive, pockets of sand, occasional shells/grit, some gravel, firm to stiff.	W	
0.6						SS06 (PSD composite - whole core)
				End of hole at 0.7 mBGL.		
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS07

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 05/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.5 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS07-1 COMBINED			SAND, very fine to fine grained, brown to grey, moderately sorted, biota.	W	SS07 (PSD composite - whole core)
				SAND, fine to medium grained, dark grey to black, slightly silty, moderately sorted.	W	
				GRAVEL, black, calcrete.	W	
0.2	SS07-1 PFAS			SAND, fine to coarse grained, grey to olive grey, slight clay content, scattered grit to fine gravel, scattered fibres. Loose calcarenite gravel, intermixed with shell and coarse to very coarse grained sand.	W	
0.4						SS07 (bulk density)
				End of hole at 0.5 mBGL.		
0.6						
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS08

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 26/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY T.M
TOTAL DEPTH 1.96 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
0.2				SAND, coarse grained, brown, fine shells, grading to medium to coarse grained sand, grey at 0.1 mBGL.	W	Trace sulphur odour, very sharp shells.
	SS08-1 COMBINED	DUP 1		Silty SAND, very fine to fine grained, grey, with some fibrous grass, large shells throughout.	W	
0.4	SS08-1 PFAS	DUP 1				
0.6						
0.8				Gravelly Shelly SAND, fine to coarse grained, intermittent low plasticity clay layers, significant shell hash.	W	
1						
						SS08 (bulk density)
1.2						
1.4						
				Grey, grading to grey brown/brown from 1.6 mBGL.		
1.6				Occasional calcrete nodules from 1.7 mBGL, significant gastropods at depth.		
1.8	PSD COMPOSITE					SS08 (PSD composite - whole core)
2				End of hole at 1.96 mBGL.		

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ENVIRONMENTAL SOIL BORE SS09

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 26/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY T.M
TOTAL DEPTH 1.67 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, very fine to fine grained, grey.	W	
0.2	SS09-1 COMBINED-1 SS09-1 PFAS			SAND, fine to coarse grained, intermixed with calcareous nodules and bivalve rounded shells.	W	
0.4 0.6 0.8				Clayey SAND, fine to medium grained, grey/green grey, low plasticity clay with small rounded shells.	W	SS09 (bulk density)
1 1.2				SAND, fine to coarse grained, grey, becoming pale grey to grey/brown, shells layered horizontally, very gritty.	W	
1.4	SS09-2 COMBINED			Clayey Silty SAND, very fine to medium grained, brown, intermixed with small shells.	W	
1.6				CLAY, low to medium plasticity, pale grey/green grey, trace fine grained sand, with calcrete nodules at EOH.	W	SS09 (PSD composite - whole core)
1.8 2				End of hole at 1.67 mBGL.		

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ENVIRONMENTAL SOIL BORE SS10

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 09/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.08 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS10-1 PFAS			SAND, very fine to fine grained, olive grey, uniform with black organic mottling.	W	
	SS10-1 COMBINED					
0.2				SAND, fine to medium grading to very coarse grained, olive grey, occasional shell fragments.	W	
0.4				LIMESTONE, large sub-rounded to rounded pieces, some broken shell fragments.	W	
0.6				SAND, medium to coarse grained, pale and dark grey bands, slightly clayey/silty and gravelly, occasional fibres and shells.	W	SS10 (bulk density)
0.8				SAND, fine to medium grained, pale green grey, slightly clayey, coarse to very coarse shelly sand, fine gravel.	W	
1				SAND, fine to very coarse grained, fine to coarse gravel, shell fragments.	W	SS10 (PSD composite - whole core)
				End of hole at 1.08 mBGL.		
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS11

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 05/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 2.05 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				Silty SAND, very fine to fine grained, brown.	W	Occasional fibres.
	SS11-1					
0.2	SS11-2			SAND, very fine to medium grained, grey, large shell fragments.	W	
				SAND, very fine grained, grey to olive grey, slightly clayey/silty, shell fragments.	W	
0.4						SS11 (bulk density)
				Silty SAND, very fine grained, grey, occasional shell.	W	
0.6				SAND, very fine to coarse grained, grey to green, slightly silty/clayey, shells, gravel (calcrete).	W	
0.8						
				SAND, yellow brown to grey brown, slightly clayey intermixed with shells.	W	
1						
1.2				SAND, yellow brown to grey, slightly clayey, shell fragments.	W	
				GRAVEL.	W	
1.4				SAND, yellow, cemented.	W	
1.6						
				CLAY, yellow to brown.	W	
1.8						
2						SS11 (PSD composite - whole core)
				End of hole at 2.05 mBGL.		

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ENVIRONMENTAL SOIL BORE SS12

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 31/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.98 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS12-1 COMBINED			Silty SAND, very fine grained, mottled olive brown, grey to black, hydrogen sulphur odour.	W	Hydrogen sulphide odour top profile.
	SS12-1 PFAS					
0.2						SS12-1 (bulk density)
				SAND, very fine grained, black, fibres.	W	
				SAND, coarse to very coarse grained, brown, shell fragments.	W	
0.4				Silty SAND, fine to very fine grained, pale to dark grey, well sorted, fibres.	W	
	SS12-2 COMBINED					
0.6				Clayey Silty SAND, fine to very fine grained, dark grey/brown to very dark banding, uniform.	W	
						SS12-2 (bulk density)
0.8						
						SS12 (PSD composite - whole core)
1				End of hole at 0.98 mBGL.		
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS13

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 31/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.85 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS13-1 COMBINED	DUP 2		SAND, very fine to fine grained, grey, uniform, well sorted, rare fiber pockets and occasional shell fragments.	W	
	SS13-1 PFAS	DUP 2				
0.2						SS13 (bulk density)
0.4						
0.6	SB13-2 COMBINED					
	SB13-2 PFAS			Hydrogen sulphur odour at base.		
0.8						SS13 (PSD composite - whole core)
				End of hole at 0.85 mBGL.		
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS14

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 31/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.35 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, coarse to very coarse grained, brown, fine gravel.	W	Red algae in fibres noted.
	SS14-1 COMBINED			Silty SAND, very fine to fine grained, dark grey, well sorted, uniform.	W	
				SAND, coarse to very coarse grained, dark grey, slightly silty, organic debris, shells.	W	
0.2	SS14-2 PFAS			Silty SAND, very fine grained, slightly clayey.	W	SS14 (bulk density - composite. 0.15 m core)
				SAND, coarse to very coarse grained, grey brown, quartz, shell (rounded).	W	SS14 (PSD composite - whole core)
				Silty SAND, very fine grained, brown/olive mottled, slightly clayey.	W	
0.4				End of hole at 0.35 mBGL.		
0.6						
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

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produced by ESlog.ESdat.net on 09 Oct 2020

ENVIRONMENTAL SOIL BORE SS15

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 31/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.39 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, fine grained, grey.	W	Insufficient core for bulk density.
	SS15-1 COMBINED			SAND, medium grained, brown.	W	
0.2	SS15-1 PFAS			Silty SAND, fine to very fine grained, grey, clayey.	W	
				Sandy CLAY, low plasticity, mottled olive grey/brown.	W	SS15 (PSD composite - whole core)
0.4				End of hole at 0.39 mBGL.		
0.6						
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS16

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 05/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.91 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				Silty SAND, very fine to fine grained, brown, uniform.	W	
				As above, mottled brown/grey.	W	
	SS16-1 COMBINED			Silty SAND, very fine to fine grained, grey, rare shell fragments, scattered fibres. Coarse sand lenses.	W	
0.2	SS16-1 PFAS					
						SS16 (bulk density)
0.4						
0.6						
				Fibre layer. Slight hydrogen sulphide odour.		
	SS16-2 COMBINED			Silty SAND, very fine to fine grained, grey, rare shell fragments, scattered fibres. Coarse sand lenses.		
0.8	SS16-2 PFAS					SS16 (PSD composite - whole core).
				End of hole at 0.91 mBGL.		
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS17

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 28/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.15 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, medium to coarse grained, brown.	W	Slight odour
	SS17-1 COMBINED			SAND, fine to medium grained quartz sand, grey, moderately sorted.	W	
0.2	SS17-1 PFAS					
				SAND, medium to very coarse grained, grey, with bands of olive grey, silty, fine to very fine sand, moderately well sorted, fibre pockets.	W	
0.4						SS17 (Bulk Density)
0.6						
				SILT, fine, with fine sand fibres.	W	
0.8				SILT, olive grey, well sorted, very fine grained sand.	W	
	SS17-2 COMBINED					
1	SS7-2 PFAS					SS17 (PSD composite - whole core)
1.2				End of hole at 1.15 mBGL.		
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS18

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 28/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.8 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, fine to medium grained, brown, occasional shell fragments.	W	
	SS18-1 COMBINED			SAND, fine to medium grained, brown to grey, calcareous nodules.	W	
0.2	SS18-1 PFAS					
				Silty Sandy CLAY, pale grey to olive grey, intermix with dark grey, fine to coarse grained sand, some fibres.	W	
						SS18 (Bulk Density)
0.4						
	SS18-2 COMBINED			Sandy CLAY, olive grey, cohesive, rare shells, occasional cemented clay/sand, gravel size.	W	
0.6						
0.8				Sandy CLAY, grey, poorly sorted clayey sand, fine to medium grained with shell lenses from 1.07 mBGL, becoming more concentrated.	W	
1						
1.2						
				CLAY lens, brown.	W	
				Silty Sandy CLAY, green grey, occasional shell (brown).	W	
1.4						
1.6						
				CLAY, dark grey, cemented fragments, some sandy clay.	W	SS18 (PSD composite - whole core)
1.8				End of hole at 1.8 mBGL.		
2						

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ENVIRONMENTAL SOIL BORE SS19

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 05/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.33 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, brown.	W	Bulk density not collected.
	SS19-1 COMBINED			SAND, fine to very coarse grained, grey brown, slightly silty.	W	
0.2	SS19-1 PFAS			SAND, medium to coarse grained, very dark grey, slightly silty, shell fragments, slight hydrogen sulphide odour (organics).	W	
0.4				Silty SAND, fine to very coarse grained, olive brown, slightly clayey and cohesive, moderately to poorly sorted, shell fragments. Organic pocket at 0.54 mBGL.	W	SS19 (PSD composite 0.3-0.9 mBGL)
0.6				Silty SAND, gradual coarsening with depth, sand to gravel, olive brown, shell fragments, uniform.	W	
0.8						
1				Silty SAND, very fine to fine grained, shell/sand/gravel. Alternate layers.	W	
1.2				SHELL GRIT, brown, gravel.	W	
1.4				End of hole at 1.33 mBGL.		
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS21

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 28/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.05 mBGL

COMMENTS

Depth (m)	Contamination Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Samples/Notes
	SS21-1 COMBINED			Silty SAND, fine to medium grained, grey.	W	Slight sulphur odour.
0.2	SS21-2 PFAS			Seagrass fibres.	W	
0.4				Silty SAND, fine grained, grey, some clay and large shell pockets.	W	
						SS21 (bulk density)
0.6				Seagrass fibres.	W	
0.8	SS21-2 PFAS					
	SS21-2 COMBINED					
1				Silty SAND, increasing clay content.	W	SS21 (PSD composite - whole core)
				End of hole at 1.05 mBGL.		
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS22

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 25/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.57 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, very fine to fine grained, grey with some pale brown mottling.	W	
	SS22-1 COMBINED					
0.2	SS22-1 PFAS					
0.4				SAND, coarse grained, grey, some shell grit.	W	
0.6						
						SS22 (Bulk density)
0.8						
1				Sandy CLAY, low plasticity, brown and grey layers, shell grit, some rocks.	W	
1.2						
1.4						SS22 (PSD composite 1.4-1.57 mBGL)
1.6				End of hole at 1.57 mBGL.		
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS23

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 28/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.35 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				Silty CLAY, dark, live biota.	W	Insufficient core for bulk density.
	SS23 COMBINED			SAND, very fine to medium grained, brown, graded bedding, coarser at bottom, silty fines.	W	
	SS23 PFAS					
0.2						SS23 (PSD composite - whole core)
				SHELLS, fibres.	W	
0.4				End of hole at 0.35 mBGL.		
0.6						
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS24

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 31/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.57 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS24-1 COMBINED			Silty SAND, fine to very fine grained sand, grey, uniform, moderately sorted.	W	No odour noted.
	SS24-1 PFAS					
0.2				SAND, coarse to very coarse grained, grey.	W	
				Occasional scattered shells, and fibre clumps, brown, organic.		SS24 (bulk density)
0.4						
0.6						
				SAND, fine to very fine grained with coarse grained bands, grey.		
0.8						
	SS24-2 COMBINED					
1	SS24-2 PFAS			Darker grey with increased clay content and coarse sand pockets.		SS24 (PSD composite - whole core)
1.2				End of hole at 1.15 mBGL.		
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS26

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 25/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH .91 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				Silty SAND, fine to coarse grained, dark grey, organic content (seagrass fibres).	W	Slight sulphur odour noted.
	SS26-1 COMBINED					
0.2	SS26-1 PFAS					
						SS26 (bulk density)
0.4						
0.6						
0.8						SS26 (PSD composite - whole core)
				End of hole at 0.91 mBGL.		
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS27

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 05/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.04 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS27-1 COMBINED			SAND, fine to medium grained, brown to brown grey, slightly silty, rare shell fragments.	W	Hydrogen sulphide odour.
	SS27-1 PFAS					
0.2						SS27 (bulk density)
				Sandy CLAY, olive grey, fine to medium grained sand, grit, soft, occasional large shell fragments.	W	
0.4						
				Sandy CLAY, olive, very soft to soft.	W	
0.6						
				Clayey SAND, fine to coarse grained, olive grading to grey, pockets of fibres.	W	
0.8						
				Sandy CLAY, grey to olive grey, soft.	W	
1				Sandy CLAY, olive, firm, cohesive.	W	SS27 (PSD composite - whole core).
				End of hole at 1.04 mBGL.		
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS28

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 31/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.47 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, fine to very fine grained, brown/grey.	W	No odour.
0.2	SS28-1 COMBINED			Silty SAND, very fine to fine grained, grey, well sorted, uniform, occasional scattered shell fragments.		
	SS28-1 PFAS					
0.4						
						SS28 (bulk density)
0.6						
	SS28-2 COMBINED			Clayey SAND, slight brown staining (organic).		
0.8	SS28-2 PFAS					
1				Occasional fibres.		
1.2						
						SS28 (PSD composite - whole log)
1.4						
				End of hole at 1.47 mBGL.		
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS29

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 31/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.6 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
	SS29-1 COMBINED			Silty SAND, very fine to fine grained, mottled olive grey/pale brown, occasional shell fragments.	W	
	SS29-1 PFAS					
0.2				Brown sand lens.		SS29 (bulk density)
0.4	SS29-2 COMBINED			Silty SAND, very fine to fine grained, grey brown, occasional fibres, scattered large shell fragments.	W	
	SS29-2 PFAS					
0.6						
0.8				SAND, fine to very coarse, grey to olive grey, fibres and large shell fragments increasing with depth.	W	SS29 (PSD composite - whole core to 1.0 mBGL)
1				SAND, very coarse grained, brown, shells.	W	
				Gravelly SAND, very coarse grained, grey, fine rounded gravel, poorly sorted.	W	
1.2				Intermixed bricks, fine gravel, black shell fragments, organic staining (no odour noted).	W	
1.4				Sandy CLAY, low plasticity, grey to dark grey, intermixed with sand and shells, paler with depth, silt increasing.	W	
1.6				End of hole at 1.6 mBGL.		
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS30

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 31/08/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 1.0 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				Silty SAND, fine grained, grey, well sorted.	W	No odour, no large shell fragments or seagrass fibres.
	SS30-1 COMBINED			SAND, medium grained, brown, well sorted.	W	
0.2	SS30-1 PFAS					
				SAND, medium grained, grey, small shell fragments.	W	
0.4				Silty SAND, very fine grained, olive grey, pockets of rounded shell fragments.	W	SS30 (bulk density)
0.6						
0.8	SS30-2 COMBINED					
	SS30-2 PFAS					SS30 (PSD composite - whole core)
1				End of hole at 1.0 mBGL.		
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS31

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 09/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.43 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				Silty SAND, very fine to fine grained, brown to grey/olive grey brown.	W	No bulk density collected.
	SS31-1 COMBINED					
0.2	SS31-1 PFAS			Silty SAND, coarse to very coarse grained, fibres.	W	
				Silty SAND, very fine to medium grained, pale grey, large bivalve shell fragments intermixed with fibres.	W	SS31 (PSD composite - whole core)
0.4						
				End of hole at 0.43 mBGL.		
0.6						
0.8						
1						
1.2						
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS32

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 09/09/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted Vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.43 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	Additional Observations
				SAND, fine grained, mottled brown grey.	W	
	SS32-1 COMBINED			Silty SAND, very fine to fine grained, dark grey, very rare shell.	W	
0.2	SS32-1 PFAS					
						SS32 (PSD composite 0.3-0.9 mBGL)
0.4				Silty SAND, fine to medium grained, dark grey to grey brown, medium to coarse grained sand with depth, slightly gravelly.	W	SS32 (bulk density)
0.6						
				Silty SAND, fine to very coarse grained, occasional seagrass clumps and rare gravel fragments.	W	
0.8						
1	SS32-2 COMBINED					
	SS32-2 PFAS			Silty SAND, fine to very fine grained.		
1.2						
				End of hole at 1.23 mBGL.		
1.4						
1.6						
1.8						
2						

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ENVIRONMENTAL SOIL BORE SS34

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 18/10/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.75 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	PID	Additional Observations
0.2	SS34-1 BULK DENSITY COMPOSITE PSD			Silty SAND, fine to very fine, grey.	W		
0.4							
0.6							
0.8				End of hole 0.75 mBGL.			

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ENVIRONMENTAL SOIL BORE SS35

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 18/10/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.73 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	PID	Additional Observations
	SS35-1 BULK DENSITY			SAND, fine grained, brown at surface, becoming coarse with depth.	W		
0.2							
0.4							
	SS35-2 PSD ONLY			Fibres, some shell fragments.			
0.6							
				End of hole at 0.73 mBGL.			
0.8							

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ENVIRONMENTAL SOIL BORE SS36

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 19/10/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.77 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	PID	Additional Observations
	SS36-1 BULK DENSITY			Silty SAND, fine to very fine grained, brown at surface, becoming grey, coarser with depth. Pockets of shell fragments.	W		
0.2							
0.4							
	SS36-2 PSD ONLY						
0.6							
0.8				End of hole at 0.77 mBGL.			

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ENVIRONMENTAL SOIL BORE SS37

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 19/10/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.98 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	PID	Additional Observations
	SS37-1 PSD ONLY	DUP 1		Silty SAND, fine to very fine, grey. Some fibres pockets of organics.	W		
0.2							
0.4							
	SS37-2 BULK DENSITY						
0.6							
0.8							
				End of hole at 0.98 mBGL.			

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 27 Nov 2020

ENVIRONMENTAL SOIL BORE SS38

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 19/10/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.45 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	PID	Additional Observations
0.2 0.4	SS38-1 PSD COMPOSITE			Silty SAND, fine to very fine grained, dark grey pockets, more fibre with depth, some shell fragments.	W		
0.6 0.8				End of hole at 0.45 mBGL.			

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 27 Nov 2020

ENVIRONMENTAL SOIL BORE SS39

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 19/10/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.39 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	PID	Additional Observations
0.2	SS39-1 PSD COMPOSITE BULK DENSITY			Silty SAND, fine to very fine grained.	W		
0.4 0.6 0.8				End of hole at 0.39 mBGL.			

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produced by ESlog.ESdat.net on 27 Nov 2020

ENVIRONMENTAL SOIL BORE SS40

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 19/10/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.71 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	PID	Additional Observations
	SS40-1 PSD COMPOSITE BULK DENSITY			Silty SAND, fine to very fine grained.	W		
0.2							
0.4				Coarse SAND.			
				Increased clay content, shell fragments.			
0.6							
				End of hole at 0.71 mBGL.			
0.8							

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 27 Nov 2020

ENVIRONMENTAL SOIL BORE SS41

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 19/10/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.42 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	PID	Additional Observations
0.2 0.4	SS41 PSD COMPOSITE BULK DENSITY			Silty SAND, fine to very fine grained, grey, minor shells.	W		
0.6 0.8				End of hole at 0.42 mBGL.			

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 27 Nov 2020

ENVIRONMENTAL SOIL BORE SS42

PROJECT NUMBER 20085.02
PROJECT NAME Port Stanvac Sampling Phase
CLIENT Dept of Environment & Water
ADDRESS O'Sullivans Beach Boat Ramp

DATE 19/10/2020
DRILLING COMPANY Aquatic Biosecurity Pty Ltd
DRILLER Dr Michael Sierp
DRILLING METHOD Boat mounted vibracore
LOGGED BY J.A.P
TOTAL DEPTH 0.51 mBGL

COMMENTS

Depth (m)	Samples	Duplicate	Graphic Log	Material Description	Moisture	PID	Additional Observations
	SS42-1 PSD COMPOSITE BULK DENSITY			Silty SAND, fine to very fine grained, grey.	W		
0.2							
0.4							
				Fibres, some shells.			
				End of hole at 0.51 mBGL.			
0.6							
0.8							

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 27 Nov 2020

Vibrocore ID: **SS33** **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): **0.0**m **Init.&Final Recov w/ cc/c:** **0.0**m **Final Recov w/o cc/c: 0.00m**
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: No Environmental Sampling Intervals: grain size etc:
Comments: **2 attempts at location – no cores = refusal on hard surface**
Core catcher/cutter empty, closed

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)
0.0 No Core recovered

Vibrocore ID: **SS34** **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): **0.54**m **Init.&Final Recov w/ cc/c: 0.30**m **Final Recov w/o cc/c: 0.27m**
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: Environmental Sampling Intervals: grain size etc:
Comments: Location: SW of O'Sullivan's Beach Marina; SE of SS13, E of SS33
Core catcher/cutter empty, closed

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)	
0.0– 0.08	Detrital/bioclastic, silty, very fine to fine SAND [pred detrital] brown well sorted, uniform, clean
0.08 – 0.27	Detrital/bioclastic, silty, very fine to fine SAND [pred detrital] Light to dark gray well sorted, uniform
0.18	small shell fragment
0.26-0.27	broken shell fragments & fibre

Interval (m)	
0.00 – 0.27	Holocene (Qh)

Vibrocore ID: **SS35** **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): **1.00**m **Init.&Final Recov w/ cc/c: 0.76**m **Final Recov w/o cc/c: 0.73m**
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: Environmental Sampling Intervals: grain size etc:
Comments: Location: WSW of O'Sullivan's Beach Marina; W of SS28 & slightly NE of SS25, N of SS13, S of SS15-SS36, SW of SS112
Core catcher/cutter empty, closed, 2 fingers slightly damaged

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)	
0.0– 0.06	Detrital/bioclastic, silty, very fine to fine SAND [pred detrital]
	Light brown
	well sorted, uniform, clean
0.06 – 0.16	Detrital/bioclastic, silty, very fine to fine SAND [pred detrital]
	Mottled light brown to gray
	well sorted, uniform, clean
0.08-0.09	black specks (organics?)
0.12-0.16	black specks (organics?)
0.16 – 0.32	Detrital/bioclastic, silty, very fine to fine SAND w/ occ fibre [pred detrital]
	Dark brown w/ occ black organic & minute shell pockets
	Moderate well sorted, uniform
0.23-0.27	dk brown to black organic & fibre pocket w/ minute shell fragments
0.28-0.29	black horizontal lense (organics?)
0.29-0.30	black horizontal lense (organics?)
0.32- 0.64	Detrital/bioclastic, very slightly clayey, silty, very fine to fine SAND to SILT w/ occ shell fragments & fibre [pred detrital]
	Gray to greenish gray
	Moderately well sorted, uniform
064 – 0.73	Detrital/bioclastic, silty, very fine to fine SAND w/ occ fibre
	Gray to greenish gray
	Moderately well sorted, uniform
0.64-0.68	bivalve shell fragments (whole/broken halves)
0.69-0.70	pocket of dark brown to gray w/ fibre/organics/shell & fine-medium sand

Interval (m)	
0.00 – 0.73	Holocene (Qh)

Vibrocore ID: SS36 **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): **0.92**m **Init.&Final Recov w/ cc/c: 0.80**m **Final Recov w/o cc/c: 0.77m**
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: Environmental Sampling Intervals: grain size etc:
Comments: Location: W of O'Sullivan's Beach Marina; W of SS12 & slightly NE of SS15, N of SS35, NW of SS28, S of SS26-38-22-37
Core catcher/cutter empty, closed; H2S odor
Note: 1st core attempted = refusal, no return

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)	
0.0– 0.05	Detrital/bioclastic, silty, very fine to fine SAND to SILT [pred detrital] Brown to grayish brown, slightly mottled well sorted, uniform, clean
0.05 – 0.17	Detrital/bioclastic, silty, very fine to fine SAND to SILT [pred detrital] Mottled gray to dark gray well sorted, uniform, clean
0.05-0.07	dk gray lense
0.17 – 0.77	Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ scattered fibre & occ pockets of small shells [pred detrital] Very slightly clayey? Mottled gray to olive gray Moderately well sorted, uniform
0.26-0.27	pocket of small shells/fragments
0.37	pocket of small shells/fragments
0.58	pocket of dark brown organics
0.72-0.77	pocket of shells/fragments
0.76-0.77	bivalve shell half

Interval (m)	
0.00 – 0.77	Holocene (Qh)

Vibrocore ID: SS37 **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): 1.33m **Init.&Final Recov w/ cc/c:** 1.01m **Final Recov w/o cc/c:** 0.98m
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: Environmental Sampling Intervals: grain size etc:
Comments: Location: W of O'Sullivan's Beach Marina entrance; W of SS12 & slightly NE of SS15, N of SS35, NW of SS28, E of SS26-39-38-22,
Core catcher/cutter empty, closed

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)	
0.0– 0.09	Detrital/bioclastic, silty, very fine to fine SAND to SILT [pred detrital] Pale brown well sorted, uniform, clean
0.09 – 0.16	Detrital/bioclastic, silty, very fine to fine SAND to SILT [pred detrital] Speckled brown to gray well sorted, uniform, clean
0.16 – 0.44	Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ scattered fibre & occ pockets of small shells [pred detrital] Mottled gray to light brownish gray Moderately well sorted, uniform
0.26-0.28	pocket of small shells/fragments
0.36-0.40	pocket of gray fine-medium sand (speckled) incl shell?
0.44	pocket of dark brown organics
0.44 – 0.98	Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ rare fibre & shells [pred detrital] Gray to greenish gray Well sorted, uniform
0.55-0.59	pocket of medium sand/organics
0.72	pocket of medium sand/organics
0.91	pocket of medium sand/organics
0.96	large shell fragment (gastropod?) with small one inside

Note: similarities with SS36 at these intervals

Interval (m)	
0.00 – 0.98	Holocene (Qh)

Vibrocore ID: **SS38** **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): **0.64**m **Init.&Final Recov w/ cc/c: 0.47**m **Final Recov w/o cc/c: 0.44m**
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: Environmental Sampling Intervals: grain size etc:
Comments: Location: W of O'Sullivan's Beach Marina entrance; W of SS22 & SS37 & E of SS26 & ss39, N of SS36 & SS12
Core catcher/cutter empty, closed; H2S odor

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)

0.0– 0.04 Detrital/bioclastic, silty, very fine to fine SAND to SILT [pred detrital]
Brown to gray
well sorted, uniform, clean

0.04 – 0.12 Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ rare fibre [pred detrital]
Very slightly clayey?
Banded dark gray to black w/ some brown mottles
well sorted, uniform

0.12 – 0.38 Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ scattered fibre & shell fragments [pred detrital]
Very slightly clayey?
Occ pockets of black organic bits
Gray to greenish gray
Moderately well sorted, uniform
0.12-0.26 scattered fibre
0.24-0.25 large bivalve shell frgment
0.34 black lense of very slightly clayey, silt to very fine sand

0.38 – 0.44 Detrital/bioclastic, silty, very fine to fine SAND w/ large shell fragments & scattered fibre
Gray to greenish gray
Pockets of coarse to very coarse sand

Note: similarities with SS36-SS37 at these intervals

Interval (m)
0.00 – 0.44 Holocene (Qh)

Vibrocore ID: **SS39** **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): **0.62**m **Init.&Final Recov w/ cc/c: 0.42**m **Final Recov w/o cc/c: 0.39m**
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: Environmental Sampling Intervals: grain size etc:
Comments: Location: W of O'Sullivan's Beach Marina entrance; W of SS22, SS38 & SS37 &, N of SS26
Core catcher/cutter empty, closed

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)	
0.0– 0.04	Detrital/bioclastic, silty, very fine to fine SAND to SILT [pred detrital] Brown well sorted, uniform, clean
0.04 – 0.08	Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ rare fibre [pred detrital] Mottled gray to brown well sorted, uniform
0.08 – 0.24	Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ scattered fibre [pred detrital] Very slightly clayey? Gray to greenish gray Moderately well sorted, uniform
0.09-0.13	slightly clayey
0.24 – 0.39	Detrital/bioclastic, silty, very fine to fine SAND to SILT [pred detrital] Very slightly clayey? Gray to greenish gray Well sorted, uniform, clean
0.25-0.27	band of black organic silt
0.32	pocket of gray/black organics & shell fragments

Note: similarities with SS36-SS37-SS38 at these intervals

Interval (m)	
0.00 – 0.39	Holocene (Qh)

Vibrocore ID: **SS40** **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): **0.91**m **Init.&Final Recov w/ cc/c: 0.74**m **Final Recov w/o cc/c: 0.71m**
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: Environmental Sampling Intervals: grain size etc:
Comments: Location: NNW of demobilized Port Stanvac Jetty; N of SS08, SS41 & VC20, NE of SS31, W of SS03, NW of SS30
Core catcher/cutter empty, closed w/ slightly dented finger

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)	
0.0– 0.05	Detrital/bioclastic, silty, very fine to fine SAND [pred detrital] Brown well sorted, uniform, clean
0.05 – 0.12	Detrital/bioclastic, silty, very fine to fine SAND w/ rare shell fragments [pred detrital] Mottled gray to brown well sorted, uniform
0.10-0.11	bivalve shell half
0.12 – 0.39	Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ rare fibre & sand size shell fragments [pred detrital] Gray Moderately well sorted, uniform
0.16-0.21	pocket of very coarse sand size shell fragments
0.33-0.34	pocket of very coarse sand size shell fragments
0.39 – 0.49	Detrital/bioclastic, slightly silty, coarse to very coarse SANd & SHELL [pred detrital] Gray Quartz?
0.49 – 0.71	Detrital/bioclastic, silty, very fine to fine SAND w/ scattered fibre & shell Occ dark brown clay lenses Gray
0.49-0.52	fibre lense
0.53-0.58	blackened scallop shell half w/ fibre & small shell fragments underneath
0.60-0.61	clay lense
0.62-0.63	clay lense w/ gravel bit
0.63-0.67	diagonal fibre lense
0.64-0.65	gravel bit
0.68	clay lense
0.69-0.71	shell fragment & some fibre

Interval (m)	
0.00 – 0.71	Holocene (Qh)

Vibrocore ID: **SS41** **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): **0.67**m **Init.&Final Recov w/ cc/c: 0.45**m **Final Recov w/o cc/c: 0.42m**
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: Environmental Sampling Intervals: grain size etc:
Comments: Location: NW of demobilized Port Stanvac Jetty; N of SS08 & VC20, W of SS30, SW of SS03, S of SS40, SE of SS31
Core catcher/cutter empty, closed

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)	
0.0– 0.09	Detrital/bioclastic, silty, very fine to fine SAND to SILT [pred detrital] Mottled brown & gray well sorted, uniform, clean
0.09 – 0.38	Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ occ shell fragments [pred detrital] Very slightly clayey? gray well sorted, uniform
0.12-0.15	shelly
0.25-0.29	occ fibre
0.33-0.36	bivalve shell half & small shell fragment
0.39 - 0.42	Detrital/bioclastic, silty very fine to fine SAND w/ occ shell fragments & fibre Very slightly clayey? Gray
0.39-0.40	large bivalve shell half & organics

Interval (m)	
0.00 – 0.42	Holocene (Qh)

Vibrocore ID: **SS42** **Date (dmy):** 13/10/2020 **Time (CST):**
Location: GDA94/MGA94 Zone 54 (m): **MGA-E:** **MGA-N:**
Location: (deg min.min) (WGS84): **Latitude:** **Longitude:**
Water Depth (m): m **Tide Correction Depth:** **AHD (m):**
Penetration w/ cc/c (m): **0.70**m **Init.&Final Recov w/ cc/c: 0.54**m **Final Recov w/o cc/c: 0.51m**
Compaction Ratio (P/R): na **Video DVD (min:sec):** **Photo ID:**
Core Box No.:
Analyses Done: Environmental Sampling Intervals: grain size etc:
Comments: Location: NNW of demobilized Port Stanvac Jetty; E of SS32, NE o SS40, N of SS03 & SS30
Core catcher/cutter empty, closed

Core Log (m): [*core depth uncorrected for compaction factor relative to (m) AHD*]

Interval (m)	
0.0– 0.06	Detrital/bioclastic, silty, very fine to fine SAND [pred detrital] brown well sorted, uniform, clean
0.05-0.06	mottling
0.06 – 0.15	Detrital/bioclastic, silty, very fine to fine SAND to SILT w/ rare fibre [pred detrital] Dark gray to gray Well sorted, uniform, clean
0.15 – 0.44	Detrital/bioclastic, silty very fine to fine SAND to SILT w/ rare fibre [pred detrital] Gray to dark greenish gray Well sorted, uniform, clean Occ black specks (organics?)
0.44 – 0.51	Detrital/bioclastic, silty very fine to fine SAND INTERMIXED W/ FIBRE & SHELL Dark gray to dark greenish gray Moderately sorted
0.47-0.48	dark greenish gray clay lense
0.50-0.51	large shell fragment

Interval (m)	
0.00 – 0.51	Holocene (Qh)

Appendix D

Chemical Tables, Statistical Results

Physical Parameters

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Particle Size Distribution and Settling Velocity: Volume Weighted Average Particle Size	Particles <=63.246 µm	90 th Percentile Particle Size	50 th Percentile Partcile size	Calculated Settling Velocity for 50% of sediments (50th percentile size)		10 th Percentile Particle size	Calculated Settling Velocity for 90% of sediments (10th Percentile Size)		Bulk Density	Calcium Carbonate: Shellgrit	Total CaCO3
					µm	%	µm	µm	ms-1	mms-1	µm	ms-1	mms-1	g/cm3	Wt%	Wt%
EQL																
Draft SA EPA Dredge Guidelines (low risk)						<1										
Draft SA EPA Dredge Guidelines (medium risk)						1-<10										
Draft SA EPA Dredge Guidelines (high risk)						>10										
SS01	249261-11	SS01	26/08/2020	0.2-0.4										1.15		
	249261-12	SS01		Composite	828.14	15.36	1839.34	484.45	0.1938739	193.8739	13.41	0.000148552	0.1485522			
SS02	249261-15	SS02	26/08/2020	0.2-0.4										1.27		
	249261-16	SS02		Composite	631.66	17.32	1689.34	186.35	0.0286867	28.686675	12.63	0.000131774	0.1317735			
SS03	249261-19	SS03	26/08/2020	0.2-0.4										0.81		
	249261-20	SS03		Composite	231.45	4.82	303.64	149.72	0.0185174	18.517445	88.46	0.006464208	6.4642076			
SS04	250072-3	SS04	09/09/2020	0.2-0.6										1.78		
	250072-4	SS04		Composite	749.26	39.98	3110.64	371.52	0.1140213	114.02126	2.33	4.4847E-06	0.0044847			
SS05	250072-5	SS05	09/09/2020	0 - 0.2											19.8	18.7
	250072-7	SS05		0.4-1.0										1.2		
	250072-8	SS05		Composite	544.29	10.64	1714.02	281.12	0.0652837	65.283723	54.72	0.00247351	2.4735096			
SS06	249740-3	SS6	05/09/2020	Composite										1.15		
	249740-4	SS6		Composite	422.24	0.01	685.06	239.82	0.0475108	47.510787	122.41	0.012378135	12.378135			
SS07	249740-7	SS7	05/09/2020	0.3-0.5										1.36		
	249740-8	SS7		Composite	1088.71	14.2	32500	487.61	0.1964114	196.41137	31.29	0.000808784	0.808784			
SS08	249261-23	SS08	26/08/2020	Composite										1.4		
	249261-24	SS08		Composite	828.14	18.69	1839.34	484.45	0.1938739	193.8739	13.41	0.000148552	0.1485522			
SS09	249261-28	SS09	25/08/2020	0.8-1.2										1.44		
	249261-29	SS09		Composite	879.99	42.39	2711.76	116.64	0.0112387	11.23871	2.31	4.41E-06	0.004408			
SS10	250072-11	SS10	09/09/2020	0.6-0.8										1.35		
	250072-12	SS10		Composite	1095.75	5.95	3865.33	946.91	0.740694	740.69401	98.69	0.008045772	8.0457721			
SS11	249740-11	SS11	05/09/2020	0.4-1.0										0.9		
	249740-12	SS11		Composite	436.22	61.9	1301.77	31.19	0.0008036	0.8036227	3.46	9.88948E-06	0.0098895			
SS12	249459-3	SS12	31/08/2020	Composite										0.93		
	249459-4	SS12		Composite	414.75	39.16	883.5	209.72	0.036333	36.332989	3.54	1.03521E-05	0.0103521			
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1											14.5	13.6
	249459-10	SS13		0.2-0.5										1.7		
	249459-11	SS13		Composite	206.69	6.86	270.15	151.35	0.0189228	18.922838	82.03	0.005558618	5.5586183			
SS14	249459-16	SS14	31/08/2020	Composite										1.38		
	249459-17	SS14		Composite	512.07	24.89	971.28	230.3	0.0438136	43.813637	6.39	3.37305E-05	0.0337305			
SS15	249459-20	SS15	31/08/2020	Composite	575.65	32.18	992.72	171.44	0.0242798	24.279836	3.24	8.67184E-06	0.0086718			
SS16	249740-15	SS16	05/09/2020	0.3-0.6										1.32		
	249740-16	SS16		Composite	328.93	6.62	634.1	170.76	0.0240876	24.08761	82.84	0.005668937	5.6689367			
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2											20.5	19.8
	249438-3	SS17		0.4 - 0.6										1.49		
	249438-4	SS17		Composite	695.07	10.22	1350	560	0.2590583	259.05828	59.7	0.002944219	2.9442188			
SS18	249438-9	SS18	28/08/2020	Composite										1.22		
	249438-10	SS18		Composite	872.38	35.14	3201	219.59	0.0398333	39.833324	2.43	4.87791E-06	0.0048779			
SS19	249740-21	SS19-1	05/09/2020	Composite	1320	38.84	4750	606.37	0.3037364	303.7364	4.95	2.0241E-05	0.020241			
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2											24.8	23.4
	249438-15	SS21		0.5-0.7										1.33		
	249438-16	SS21		Composite	725.33	12.2	1958	164.88	0.0224573	22.457292	50.81	0.002132651	2.1326511			
SS22	249261-7	SS22	25/08/2020	0.2 - 0.3										1.74		
	249261-8	SS22		Composite	582.41	5.97	1624.56	192.18	0.0305097	30.509691	87.41	0.006311661	6.311661			
SS23	249438-21	SS23	28/08/2020	Composite	771.41	3.03	1720.3	323.72	0.0865686	86.568619	117.32	0.011370133	11.370133			
SS24	249459-23	SS24	31/08/2020	0.2-0.5										1.36		
	249459-24	SS24		Composite	452.47	17.44	1050.41	153.95	0.0195786	19.578563	10.97	9.94111E-05	0.0994111			
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2											19.4	18.4
	249261-3	SS26		0.2-0.45										1.23		
	249261-4	SS26		Composite	188.65	13.44	265.67	134.22	0.0148818	14.881815	16.98	0.000235936	0.2359363			
SS27	249740-24	SS27	05/09/2020	0.2-0.6										1.86		
	249740-25	SS27		Composite	288.02	62.41	858.59	28.22	0.0006593	0.6592975	3.56	1.04492E-05	0.0104492			
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15											24.1	22.5
	249459-30	SS28		Composite										1.4		
	249459-31	SS28		Composite	184.24	7.88	249.82	148.04	0.0181042	18.10421	76.27	0.004805393	4.8053931			
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1											30.2	29
	249459-36	SS29		0.2-0.4										1.2		
	249459-37	SS29		Composite	734.31	14.7	1834.13	230.2	0.0437756	43.775596	16.77	0.000232321	0.2323205			
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2											8.5	8.1
	249438-24	SS30		0.4 - 0.6										1.42		
	249438-25	SS30		Composite	332.24	4.41	792.41	172.04	0.0244501	24.450081	90.42	0.006753835	6.7538348			
SS31	250072-15	SS31	09/09/2020	Composite	597.05	6.83	1924.38	344.3	0.0979254	97.925426	86.62	0.006198089	6.1980887			
SS32	250072-18	SS32	09/09/2020	0.4-1.0										1.89		
	250072-19	SS32		Composite	919.41	8.04	3734.07	737.64	0.44948	449.47997	75.48	0.004706361	4.7063607			

Physical Parameters

					Particle Size Distribution and Settling Velocity										Calcium Carbonate	
					Volume Weighted Average Particle Size	Particles <=63.246 µm	90 th Percentile Particle Size	50 th Percentile Partcile size	Calculated Settling Velocity for 50% of sediments (50th percentile size)		10 th Percentile Particle size	Calculated Settling Velocity for 90% of sediments (10th Percentile Size)		Bulk Density	Shellgrit	Total CaCO3
					µm	%	µm	µm	ms-1	mms-1	µm	ms-1	mms-1	g/cm3	Wt%	Wt%
EQL																
Draft SA EPA Dredge Guidelines (low risk)						<1										
Draft SA EPA Dredge Guidelines (medium risk)						1-<10										
Draft SA EPA Dredge Guidelines (high risk)						>10										
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**												
Additional Bores																
SS34	251890-A-1	SS34	19/10/2020	0-0.3										1.3	14.1	13.2
	251890-A-2	SS34		Composite	200.53	0	312	184.16	0.0280164	28.016381	109.18	0.009847083	9.8470832			
SS35	251890-A-3	SS35-1	19/10/2020	0-0.5										1.7	19.4	18.2
	251890-A-4	SS35-1		Composite	228.05	0.15	313.63	158.74	0.0208488	20.848817	94.74	0.007414608	7.4146079			
	251890-A-5	SS35-2		Composite	301.72	7.61	653.22	174.81	0.0252438	25.243756	79.96	0.005236986	5.236986			
SS36	251890-A-6	SS36-1	19/10/2020	0-0.5										1.4	16.4	15.2
	251890-A-7	SS36-1		Composite	205.48	4.07	298.48	158.14	0.0208488	20.848817	90.95	0.006833242	6.8332425			
	251890-A-8	SS36-2		Composite	182.41	9.09	233.01	143.7	0.0170583	17.058269	72.99	0.004400967	4.4009674			
SS37	251890-A-9	SS37	19/10/2020	Composite	282.29	0.03	411.84	188.34	0.0293026	29.302627	103.3	0.008814995	8.814995			
	251890-A-10	SS37		0.5-0.8										1.4	15.2	14
SS38	251890-A-11	SS38	19/10/2020	0-0.4										1.6	20	18.7
	251890-A-12	SS38		Composite	277.03	6.16	296.87	148.64	0.0182513	18.251259	81.58	0.005497799	5.4977986			
SS39	251890-A-13	SS39	19/10/2020	0-0.4										1.2	18.2	17
	251890-A-14	SS39		Composite	148.51	14.03	224.17	133.58	0.0147402	14.740232	52.03	0.002236295	2.2362949			
SS40	251890-A-15	SS40	19/10/2020	0-0.5										1.3	22.5	21.2
	251890-A-16	SS40		Composite	278.49	8.38	546.05	147.62	0.0180016	18.00163	73.36	0.004445699	4.4456992			
SS41	251890-A-17	SS41	19/10/2020	0-0.4										1.6	21.9	20.5
	251890-A-18	SS41		Composite	198.3	4.72	259.33	151.9	0.0190606	19.060618	88.07	0.006407335	6.4073348			
SS42	251890-A-19	SS42	19/10/2020	0-0.5										1.2	15.7	14.5
	251890-A-20	SS42		Composite	159.32	6.88	215.59	139.05	0.0159722	15.972151	81.08	0.005430614	5.4306136			
Duplicate																
SS37	251890-A-10	SS37	19/10/2020	Composite	282.29	0.03	411.84	188.34	0.0293026	29.302627	103.3	0.008814995	8.814995			
Dup 1	251890-A-21	Duplicate			235.06	3.47	305.92	171.77	0.0243734	24.373397	100.29	0.008308769	8.3087691			
RPD					18	**197**	30	9	18	18	3	6	6			

Chemical Table

					Metals															
					Aluminium	Antimony	Arsenic	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					1	0.5	0.5	0.1	0.5	0.5	0.5	1	0.5	1	0.01	0.5	0.1	0.1	0.5	0.5
National Assessment Guidelines for Dredging 2009						2	20	1.5	80		65		50		0.15	21		1		200
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**																
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2	1,800	<0.5	20	<0.1	10	0.5	0.9	8,400	2.7	41	0.05	1.5	0.2	<0.1	30	4.6
	249261-10	SS01		0.2 - 0.3																
	249261-11	SS01		0.2-0.4																
	249261-12	SS01		Composite																
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2	1,300	<0.5	11	<0.1	8	<0.5	0.7	5,700	3.3	32	0.01	1.1	0.1	<0.1	19	4.4
	249261-14	SS02		0.2 - 0.3																
	249261-15	SS02		0.2-0.4																
	249261-16	SS02		Composite																
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2	440	<0.5	2.2	<0.1	2.4	<0.5	<0.5	1,300	1	13	<0.01	<0.5	<0.1	<0.1	4.8	2
	249261-18	SS03		0.2 - 0.3																
	249261-19	SS03		0.2-0.4																
	249261-20	SS03		Composite																
SS04	250072-1	SS04	09/09/2020	0 - 0.1	2,500	0.6	25	<0.1	14	0.6	0.9	10,000	3.2	49	0.02	1.7	0.2	<0.1	38	4.6
	250072-2	SS04		0.1 - 0.2																
	250072-3	SS04		0.2-0.6																
	250072-4	SS04		Composite																
SS05	250072-5	SS05	09/09/2020	0 - 0.2	1,200	<0.5	3.8	<0.1	4.6	<0.5	0.8	2,400	1.6	31	<0.01	1.1	<0.1	<0.1	6.2	3.3
	250072-6	SS05		0.2 - 0.4																
	250072-7	SS05		0.4-1.0																
	250072-8	SS05		Composite																
SS06	249740-1	SS6	05/09/2020	0 - 0.1	1,600	<0.5	17	<0.1	12	<0.5	0.8	7,200	4.4	59	0.04	1.3	0.1	<0.1	26	7
	249740-2	SS6		0.1 - 0.2																
	249740-3	SS6		Composite																
	249740-4	SS6		Composite																
SS07	249740-5	SS7	05/09/2020	0 - 0.1	2,700	<0.5	14	<0.1	9.6	0.6	2	6,500	4.3	51	0.03	1.8	0.2	<0.1	23	5.6
	249740-6	SS7		0.2 - 0.3																
	249740-7	SS7		0.3-0.5																
	249740-8	SS7		Composite																
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33	780	<0.5	4.1	<0.1	2.9	<0.5	<0.5	1,900	0.9	19	<0.01	1	0.1	<0.1	6	1.8
	249261-22	SS08		0.33 - 0.43																
	249261-23	SS08		Composite																
	249261-24	SS08		Composite																
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2	1,500	0.5	24	<0.1	8.7	<0.5	0.6	7,500	2	44	0.03	1.4	0.2	<0.1	30	3
	249261-26	SS09-2		1.4 - 1.47	1,300	1.7	16	<0.1	2.1	1.2	2.4	7,100	0.9	36	0.04	3.4	0.3	<0.1	37	2.3
	249261-27	SS09		0.2 - 0.3																
	249261-28	SS09		0.8-1.2																
	249261-29	SS09		Composite																

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Metals															
					Aluminium	Antimony	Arsenic	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					1	0.5	0.5	0.1	0.5	0.5	0.5	1	0.5	1	0.01	0.5	0.1	0.1	0.5	0.5
National Assessment Guidelines for Dredging 2009						2	20	1.5	80		65		50		0.15	21		1		200
SS10	250072-9	SS10	09/09/2020	0 - 0.1																
	250072-10	SS10		0.1 - 0.2	1,900	<0.5	6.8	<0.1	7.7	0.6	1.2	4,800	3.6	31	0.01	1.8	0.2	<0.1	14	6.1
	250072-11	SS10		0.6-0.8																
	250072-12	SS10		Composite																
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2	1,300	<0.5	8.3	<0.1	5.4	<0.5	0.6	3,600	2.4	33	0.02	1	<0.1	<0.1	12	3
	249740-10	SS11-1		0.2 - 0.3																
	249740-11	SS11		0.4-1.0																
	249740-12	SS11		Composite																
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1	2,100	<0.5	2.9	<0.1	3.3	<0.5	0.5	4,900	1.5	29	0.08	1.1	<0.1	<0.1	5.9	3.3
	249459-2	SS12-1		0.1 - 0.2																
	249459-3	SS12		Composite																
	249459-4	SS12		Composite																
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1	820	<0.5	3.1	<0.1	3.3	<0.5	<0.5	2,100	1.5	31	0.01	1	<0.1	<0.1	5.6	2.8
	249459-9	SS13-1		0.1 - 0.2																
	249459-10	SS13		0.2-0.5																
	249459-11	SS13		Composite																
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15	1,800	<0.5	10	<0.1	7.5	0.8	1.2	7,200	5.7	33	0.03	2.1	<0.1	<0.1	16	8.5
	249459-15	SS14		0.15 - 0.25																
	249459-16	SS14		Composite																
	249459-17	SS14		Composite																
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15	980	<0.5	4.9	<0.1	3.5	<0.5	0.6	2,400	1	15	<0.01	1	0.1	<0.1	9.5	1.9
	249459-19	SS15		0.15 - 0.25																
	249459-20	SS15		Composite																
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2	1,100	<0.5	2.8	<0.1	4.4	<0.5	0.5	2,200	2.3	30	0.01	1	<0.1	<0.1	6.3	3.6
	249740-14	SS16-1		0.2 - 0.3																
	249740-15	SS16		0.3-0.6																
	249740-16	SS16		Composite																
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2	450	<0.5	4	<0.1	2.5	<0.5	<0.5	2,100	1.4	17	<0.01	0.6	<0.1	<0.1	6.3	2.6
	249438-2	SS17-1		0.2 - 0.3																
	249438-3	SS17		0.4 - 0.6																
	249438-4	SS17		Composite																
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2	2,400	<0.5	28	<0.1	11	0.6	1.1	11,000	4.2	51	0.06	1.6	0.2	<0.1	40	5.3
	249438-8	SS18-1		0.2 - 0.3																
	249438-9	SS18		Composite																
	249438-10	SS18		Composite																
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2	2,000	<0.5	5.5	<0.1	3.6	<0.5	2.4	2,500	1.7	22	0.01	1	<0.1	<0.1	7.2	2.8
	249740-20	SS19-1		0.2 - 0.3																
	249740-21	SS19-1		Composite																

Chemical Table

					Metals															
					Aluminium	Antimony	Arsenic	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					1	0.5	0.5	0.1	0.5	0.5	0.5	1	0.5	1	0.01	0.5	0.1	0.1	0.5	0.5
National Assessment Guidelines for Dredging 2009						2	20	1.5	80		65		50		0.15	21		1		200
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**																
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2	1,300	<0.5	4.9	<0.1	5.3	<0.5	0.8	3,300	3.5	34	0.01	1.3	0.1	<0.1	9	5.7
	249438-14	SS21-1		0.2 - 0.3																
	249438-15	SS21		0.5-0.7																
	249438-16	SS21		Composite																
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2	960	<0.5	5.2	<0.1	3.8	<0.5	<0.5	3,000	1.7	38	0.01	1.2	<0.1	<0.1	7.7	3.1
	249261-6	SS22		0.2 - 0.3																
	249261-7	SS22		0.2 - 0.3																
	249261-8	SS22		Composite																
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13	1,400	<0.5	5.9	<0.1	5.4	<0.5	0.7	3,500	3.1	37	0.01	1.2	<0.1	<0.1	10	4.6
	249438-20	SS23		0.13 - 0.23																
	249438-21	SS23		Composite																
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1	870	<0.5	2.9	<0.1	3.9	<0.5	0.5	2,100	2.4	30	<0.01	1	<0.1	<0.1	5.6	3.7
	249459-22	SS24-1		0.1 - 0.2																
	249459-23	SS24		0.2-0.5																
	249459-24	SS24		Composite																
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2	870	<0.5	3.3	<0.1	3.4	<0.5	<0.5	2,200	1.7	28	<0.01	0.8	<0.1	<0.1	5.3	2.4
	249261-2	SS26		0.2 - 0.3																
	249261-3	SS26		0.2-0.45																
	249261-4	SS26		Composite																
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1	1,600	0.6	38	<0.1	15	<0.5	<0.5	13,000	4.9	66	0.05	1.1	0.1	<0.1	46	5.7
	249740-23	SS27-1		0.1 - 0.2																
	249740-24	SS27		0.2-0.6																
	249740-25	SS27		Composite																
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	1,400	<0.5	4.8	<0.1	5.1	<0.5	0.6	3,700	1.8	46	0.01	1.7	<0.1	<0.1	9.6	4
	249459-29	SS28-1		0.15 - 0.25																
	249459-30	SS28		Composite																
	249459-31	SS28		Composite																
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1	1,100	<0.5	8.2	<0.1	6	<0.5	0.6	4,000	2.1	29	0.01	1.2	0.1	<0.1	14	3
	249459-35	SS29-1		0.1 - 0.2																
	249459-36	SS29		0.2-0.4																
	249459-37	SS29		Composite																
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2	260	<0.5	3.1	<0.1	1.9	<0.5	<0.5	1,300	1.1	11	<0.01	<0.5	<0.1	<0.1	4.3	5.4
	249438-23	SS30-1		0.2 - 0.3																
	249438-24	SS30		0.4 - 0.6																
	249438-25	SS30		Composite																
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2	1,300	<0.5	8.1	<0.1	6.3	<0.5	0.7	4,100	2.9	30	0.01	1.2	0.1	<0.1	13	5.1
	250072-14	SS31		0.2 - 0.3																
	250072-15	SS31		Composite																
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	1,700	<0.5	4.6	<0.1	6	0.5	1	3,900	3.4	36	0.01	1.8	0.1	<0.1	9.3	6.5
	250072-17	SS32-1		0.2 - 0.3																
	250072-18	SS32		0.4-1.0																
	250072-19	SS32		Composite																

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	TPH										BTEX					PAH																
					C6-C10	C10-C16	C16-C34	C34-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene Total	Benzo(b+j) & Benzo(k)fluoranthene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Coronene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					25	25	25	25	25	25	25	25	100	100	0.2	0.2	0.2	0.2	0.4	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
National Assessment Guidelines for Dredging 2009													550	550													1									
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249261-10	SS01		0.2 - 0.3																																
	249261-11	SS01		0.2-0.4																																
	249261-12	SS01		Composite																																
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249261-14	SS02		0.2 - 0.3																																
	249261-15	SS02		0.2-0.4																																
	249261-16	SS02		Composite																																
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249261-18	SS03		0.2 - 0.3																																
	249261-19	SS03		0.2-0.4																																
	249261-20	SS03		Composite																																
SS04	250072-1	SS04	09/09/2020	0 - 0.1	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	250072-2	SS04		0.1 - 0.2																																
	250072-3	SS04		0.2-0.6																																
	250072-4	SS04		Composite																																
SS05	250072-5	SS05	09/09/2020	0 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	250072-6	SS05		0.2 - 0.4																																
	250072-7	SS05		0.4-1.0																																
	250072-8	SS05		Composite																																
SS06	249740-1	SS6	05/09/2020	0 - 0.1	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249740-2	SS6		0.1 - 0.2																																
	249740-3	SS6		Composite																																
	249740-4	SS6		Composite																																
SS07	249740-5	SS7	05/09/2020	0 - 0.1	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249740-6	SS7		0.2 - 0.3																																
	249740-7	SS7		0.3-0.5																																
	249740-8	SS7		Composite																																
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249261-22	SS08		0.33 - 0.43																																
	249261-23	SS08		Composite																																
	249261-24	SS08		Composite																																
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249261-26	SS09-2		1.4 - 1.47	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249261-27	SS09		0.2 - 0.3																																
	249261-28	SS09		0.8-1.2																																
	249261-29	SS09		Composite																																

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	TPH										BTEX					PAH																
					C6-C10	C10-C16	C16-C34	C34-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene Total	Benzo(b+j) & Benzo(k)fluoranthene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Coronene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					25	25	25	25	25	25	25	25	100	100	0.2	0.2	0.2	0.2	0.4	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
National Assessment Guidelines for Dredging 2009													550	550													1									
SS10	250072-9	SS10	09/09/2020	0 - 0.1																																
	250072-10	SS10		0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	250072-11	SS10		0.6-0.8																																
	250072-12	SS10		Composite																																
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249740-10	SS11-1		0.2 - 0.3																																
	249740-11	SS11		0.4-1.0																																
	249740-12	SS11		Composite																																
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249459-2	SS12-1		0.1 - 0.2																																
	249459-3	SS12		Composite																																
	249459-4	SS12		Composite																																
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249459-9	SS13-1		0.1 - 0.2																																
	249459-10	SS13		0.2-0.5																																
	249459-11	SS13		Composite																																
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249459-15	SS14		0.15 - 0.25																																
	249459-16	SS14		Composite																																
	249459-17	SS14		Composite																																
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249459-19	SS15		0.15 - 0.25																																
	249459-20	SS15		Composite																																
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249740-14	SS16-1		0.2 - 0.3																																
	249740-15	SS16		0.3-0.6																																
	249740-16	SS16		Composite																																
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249438-2	SS17-1		0.2 - 0.3																																
	249438-3	SS17		0.4 - 0.6																																
	249438-4	SS17		Composite																																
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	0.099	<0.005	<0.005	<0.005	0.01	<0.005	0.015	0.021	0.019	0.018	0.017	0.014	<0.005	<0.005	<0.005	0.006	0.012
	249438-8	SS18-1		0.2 - 0.3																																
	249438-9	SS18		Composite																																
	249438-10	SS18		Composite																																
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249740-20	SS19-1		0.2 - 0.3																																
	249740-21	SS19-1		Composite																																

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	TPH										BTEX					PAH																
					C6-C10	C10-C16	C16-C34	C34-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene Total	Benzo(b+j) & Benzo(k)fluoranthene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Coronene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					25	25	25	25	25	25	25	25	100	100	0.2	0.2	0.2	0.2	0.4	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
National Assessment Guidelines for Dredging 2009													550	550													1									
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249438-14	SS21-1		0.2 - 0.3																																
	249438-15	SS21		0.5-0.7																																
	249438-16	SS21		Composite																																
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249261-6	SS22		0.2 - 0.3																																
	249261-7	SS22		0.2 - 0.3																																
	249261-8	SS22		Composite																																
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249438-20	SS23		0.13 - 0.23																																
	249438-21	SS23		Composite																																
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249459-22	SS24-1		0.1 - 0.2																																
	249459-23	SS24		0.2-0.5																																
	249459-24	SS24		Composite																																
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249261-2	SS26		0.2 - 0.3																																
	249261-3	SS26		0.2-0.45																																
	249261-4	SS26		Composite																																
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249740-23	SS27-1		0.1 - 0.2																																
	249740-24	SS27		0.2-0.6																																
	249740-25	SS27		Composite																																
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249459-29	SS28-1		0.15 - 0.25																																
	249459-30	SS28		Composite																																
	249459-31	SS28		Composite																																
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249459-35	SS29-1		0.1 - 0.2																																
	249459-36	SS29		0.2-0.4																																
	249459-37	SS29		Composite																																
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	249438-23	SS30-1		0.2 - 0.3																																
	249438-24	SS30		0.4 - 0.6																																
	249438-25	SS30		Composite																																
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	250072-14	SS31		0.2 - 0.3																																
	250072-15	SS31		Composite																																
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	250072-17	SS32-1		0.2 - 0.3																																
	250072-18	SS32		0.4-1.0																																
	250072-19	SS32		Composite																																

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Other	PFAS																													
					6:2 Fluorotelomer Sulfonate (6:2 FtS)	EtPerfluorooctanesulf- amid oacetic acid	4:2 FTS	8:2 FTS	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluoroheptanoic acid	Perfluorohexanoic acid	Perfluorooctanesulfonic acid PFOS	Perfluoropentanoic acid	Sum of PFHxS and PFOS	MePerfluorooctanesulf- amid oacetic acid	N-Et perfluorooctanesulfonamid oethanol	N-Ethyl perfluorooctanesulfon amide	N-Me perfluorooctanesulfonamid oethanol	N-Methyl perfluorooctane sulfonamide	Perfluorodecanesulfonic acid	Perfluorodecanoic acid	Perfluorododecanoic acid	Perfluorononanoic acid	Perfluorooctane sulfonamide	Perfluoropentanesulfonic acid	Perfluorotetradecanoic acid	Perfluorotridecanoic acid	Perfluoroundecanoic acid	PFHxS (355-46-4)	Perfluoroheptane sulfonic acid (PFHpS)	Sum of PFAS	Total Positive PFOS & PFOA	10:2 FTS	Perfluorooctanoate
					mg/kg	µg/kg	µg/kg	µg/kg	ug/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	µg/kg	µg/kg	mg/kg
EQL					0.0001	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	5	1	1	1	0.2	0.5	0.5	0.1	1	0.1	5	0.5	0.5	0.1	0.0001	0.0001	0.1	0.1	0.0001
National Assessment Guidelines for Dredging 2009																																			
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2																															
	249261-10	SS01		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249261-11	SS01		0.2-0.4																															
	249261-12	SS01		Composite																															
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2																															
	249261-14	SS02		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249261-15	SS02		0.2-0.4																															
	249261-16	SS02		Composite																															
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2																															
	249261-18	SS03		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249261-19	SS03		0.2-0.4																															
	249261-20	SS03		Composite																															
SS04	250072-1	SS04	09/09/2020	0 - 0.1																															
	250072-2	SS04		0.1 - 0.2	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	250072-3	SS04		0.2-0.6																															
	250072-4	SS04		Composite																															
SS05	250072-5	SS05	09/09/2020	0 - 0.2																															
	250072-6	SS05		0.2 - 0.4	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	250072-7	SS05		0.4-1.0																															
	250072-8	SS05		Composite																															
SS06	249740-1	SS6	05/09/2020	0 - 0.1																															
	249740-2	SS6		0.1 - 0.2	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249740-3	SS6		Composite																															
	249740-4	SS6		Composite																															
SS07	249740-5	SS7	05/09/2020	0 - 0.1																															
	249740-6	SS7		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249740-7	SS7		0.3-0.5																															
	249740-8	SS7		Composite																															
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33																															
	249261-22	SS08		0.33 - 0.43	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249261-23	SS08		Composite																															
	249261-24	SS08		Composite																															
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2																															
	249261-26	SS09-2		1.4 - 1.47																															
	249261-27	SS09		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249261-28	SS09		0.8-1.2																															
	249261-29	SS09		Composite																															

Chemical Table

					Other	PFAS																													
					6:2 Fluorotelomer Sulfonate (6:2 FtS)	EtPerfluorooctanesulf- amid oacetic acid	4:2 FTS	8:2 FTS	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluoroheptanoic acid	Perfluorohexanoic acid	Perfluorooctanesulfonic acid PFOS	Perfluoropentanoic acid	Sum of PFHxS and PFOS	MePerfluorooctanesulf- amid oacetic acid	N-Et perfluorooctanesulfonamid oethanol	N-Ethyl perfluorooctanesulfon amide	N-Me perfluorooctanesulfonamid oethanol	N-Methyl perfluorooctane sulfonamide	Perfluorodecanesulfonic acid	Perfluorodecanoic acid	Perfluorododecanoic acid	Perfluorononanoic acid	Perfluorooctane sulfonamide	Perfluoropentanesulfonic acid	Perfluorotetradecanoic acid	Perfluorotridecanoic acid	Perfluoroundecanoic acid	PFHxS (355-46-4)	Perfluoroheptane sulfonic acid (PFHpS)	Sum of PFAS	Total Positive PFOS & PFOA	10:2 FTS	Perfluorooctanoate
					mg/kg	µg/kg	µg/kg	µg/kg	ug/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	µg/kg	µg/kg	mg/kg
EQL					0.0001	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	5	1	1	1	0.2	0.5	0.5	0.1	1	0.1	5	0.5	0.5	0.1	0.0001	0.0001	0.1	0.1	0.0001
National Assessment Guidelines for Dredging 2009																																			
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**																															
SS10	250072-9	SS10	09/09/2020	0 - 0.1	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	250072-10	SS10		0.1 - 0.2																															
	250072-11	SS10		0.6-0.8																															
	250072-12	SS10		Composite																															
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2																															
	249740-10	SS11-1		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249740-11	SS11		0.4-1.0																															
	249740-12	SS11		Composite																															
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1																															
	249459-2	SS12-1		0.1 - 0.2	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249459-3	SS12		Composite																															
	249459-4	SS12		Composite																															
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1																															
	249459-9	SS13-1		0.1 - 0.2	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249459-10	SS13		0.2-0.5																															
	249459-11	SS13		Composite																															
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15																															
	249459-15	SS14		0.15 - 0.25	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249459-16	SS14		Composite																															
	249459-17	SS14		Composite																															
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15																															
	249459-19	SS15		0.15 - 0.25	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249459-20	SS15		Composite																															
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2																															
	249740-14	SS16-1		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249740-15	SS16		0.3-0.6																															
	249740-16	SS16		Composite																															
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2																															
	249438-2	SS17-1		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249438-3	SS17		0.4 - 0.6																															
	249438-4	SS17		Composite																															
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2																															
	249438-8	SS18-1		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249438-9	SS18		Composite																															
	249438-10	SS18		Composite																															
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2																															
	249740-20	SS19-1		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249740-21	SS19-1		Composite																															

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Other	PFAS																													
					6:2 Fluorotelomer Sulfonate (6:2 FtS)	EtPerfluorooctanesulf- amid oacetic acid	4:2 FTS	8:2 FTS	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluoroheptanoic acid	Perfluorohexanoic acid	Perfluorooctanesulfonic acid PFOS	Perfluoropentanoic acid	Sum of PFHxS and PFOS	MePerfluorooctanesulf- amid oacetic acid	N-Et perfluorooctanesulfonamid oethanol	N-Ethyl perfluorooctanesulfon amide	N-Me perfluorooctanesulfonamid oethanol	N-Methyl perfluorooctane sulfonamide	Perfluorodecanesulfonic acid	Perfluorodecanoic acid	Perfluorododecanoic acid	Perfluorononanoic acid	Perfluorooctane sulfonamide	Perfluoropentanesulfonic acid	Perfluorotetradecanoic acid	Perfluorotridecanoic acid	Perfluoroundecanoic acid	PFHxS (355-46-4)	Perfluoroheptane sulfonic acid (PFHpS)	Sum of PFAS	Total Positive PFOS & PFOA	10:2 FTS	Perfluorooctanoate
					mg/kg	µg/kg	µg/kg	µg/kg	ug/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	µg/kg	µg/kg	mg/kg
EQL					0.0001	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	5	1	1	1	0.2	0.5	0.5	0.1	1	0.1	5	0.5	0.5	0.1	0.0001	0.0001	0.1	0.1	0.0001
National Assessment Guidelines for Dredging 2009																																			
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2																															
	249438-14	SS21-1		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249438-15	SS21		0.5-0.7																															
	249438-16	SS21		Composite																															
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2																															
	249261-6	SS22		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249261-7	SS22		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249261-8	SS22		Composite																															
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13																															
	249438-20	SS23		0.13 - 0.23	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249438-21	SS23		Composite																															
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1																															
	249459-22	SS24-1		0.1 - 0.2	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249459-23	SS24		0.2-0.5																															
	249459-24	SS24		Composite																															
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2																															
	249261-2	SS26		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249261-3	SS26		0.2-0.45																															
	249261-4	SS26		Composite																															
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1																															
	249740-23	SS27-1		0.1 - 0.2	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249740-24	SS27		0.2-0.6																															
	249740-25	SS27		Composite																															
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15																															
	249459-29	SS28-1		0.15 - 0.25	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249459-30	SS28		Composite																															
	249459-31	SS28		Composite																															
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1																															
	249459-35	SS29-1		0.1 - 0.2	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249459-36	SS29		0.2-0.4																															
	249459-37	SS29		Composite																															
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2																															
	249438-23	SS30-1		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	249438-24	SS30		0.4 - 0.6																															
	249438-25	SS30		Composite																															
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2																															
	250072-14	SS31		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	250072-15	SS31		Composite																															
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2																															
	250072-17	SS32-1		0.2 - 0.3	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.0001	<0.1	<0.2	<0.0001
	250072-18	SS32		0.4-1.0																															
	250072-19	SS32		Composite																															

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
					Chlorinated Hydrocarbons																																
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	2	0.5	1	1	1	1	1
National Assessment Guidelines for Dredging 2009																																					
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249261-10	SS01		0.2 - 0.3																																	
	249261-11	SS01		0.2-0.4																																	
	249261-12	SS01		Composite																																	
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249261-14	SS02		0.2 - 0.3																																	
	249261-15	SS02		0.2-0.4																																	
	249261-16	SS02		Composite																																	
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249261-18	SS03		0.2 - 0.3																																	
	249261-19	SS03		0.2-0.4																																	
	249261-20	SS03		Composite																																	
SS04	250072-1	SS04	09/09/2020	0 - 0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	<1
	250072-2	SS04		0.1 - 0.2																																	
	250072-3	SS04		0.2-0.6																																	
	250072-4	SS04		Composite																																	
SS05	250072-5	SS05	09/09/2020	0 - 0.2	<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
	250072-6	SS05		0.2 - 0.4																																	
	250072-7	SS05		0.4-1.0																																	
	250072-8	SS05		Composite																																	
SS06	249740-1	SS6	05/09/2020	0 - 0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249740-2	SS6		0.1 - 0.2																																	
	249740-3	SS6		Composite																																	
	249740-4	SS6		Composite																																	
SS07	249740-5	SS7	05/09/2020	0 - 0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249740-6	SS7		0.2 - 0.3																																	
	249740-7	SS7		0.3-0.5																																	
	249740-8	SS7		Composite																																	
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249261-22	SS08		0.33 - 0.43																																	
	249261-23	SS08		Composite																																	
	249261-24	SS08		Composite																																	
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249261-26	SS09-2		1.4 - 1.47	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249261-27	SS09		0.2 - 0.3																																	
	249261-28	SS09		0.8-1.2																																	
	249261-29	SS09		Composite																																	

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
					Chlorinated Hydrocarbons																															
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	2	0.5	1	1	1	1	1
National Assessment Guidelines for Dredging 2009																																				
SS10	250072-9	SS10	09/09/2020	0 - 0.1																																
	250072-10	SS10		0.1 - 0.2	<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
	250072-11	SS10		0.6-0.8																																
	250072-12	SS10		Composite																																
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249740-10	SS11-1		0.2 - 0.3																																
	249740-11	SS11		0.4-1.0																																
	249740-12	SS11		Composite																																
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249459-2	SS12-1		0.1 - 0.2																																
	249459-3	SS12		Composite																																
	249459-4	SS12		Composite																																
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249459-9	SS13-1		0.1 - 0.2																																
	249459-10	SS13		0.2-0.5																																
	249459-11	SS13		Composite																																
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249459-15	SS14		0.15 - 0.25																																
	249459-16	SS14		Composite																																
	249459-17	SS14		Composite																																
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249459-19	SS15		0.15 - 0.25																																
	249459-20	SS15		Composite																																
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249740-14	SS16-1		0.2 - 0.3																																
	249740-15	SS16		0.3-0.6																																
	249740-16	SS16		Composite																																
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249438-2	SS17-1		0.2 - 0.3																																
	249438-3	SS17		0.4 - 0.6																																
	249438-4	SS17		Composite																																
SS18	249438-7	SS18-1	28/08/2020	0.1 - 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	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249438-8	SS18-1		0.2 - 0.3																																
	249438-9	SS18		Composite																																
	249438-10	SS18		Composite																																
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249740-20	SS19-1		0.2 - 0.3																																
	249740-21	SS19-1		Composite																																

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
					Chlorinated Hydrocarbons																															
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	2	0.5	1	1	1	1	1
National Assessment Guidelines for Dredging 2009																																				
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249438-14	SS21-1		0.2 - 0.3																																
	249438-15	SS21		0.5-0.7																																
	249438-16	SS21		Composite																																
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249261-6	SS22		0.2 - 0.3																																
	249261-7	SS22		0.2 - 0.3																																
	249261-8	SS22		Composite																																
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249438-20	SS23		0.13 - 0.23																																
	249438-21	SS23		Composite																																
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249459-22	SS24-1		0.1 - 0.2																																
	249459-23	SS24		0.2-0.5																																
	249459-24	SS24		Composite																																
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249261-2	SS26		0.2 - 0.3																																
	249261-3	SS26		0.2-0.45																																
	249261-4	SS26		Composite																																
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249740-23	SS27-1		0.1 - 0.2																																
	249740-24	SS27		0.2-0.6																																
	249740-25	SS27		Composite																																
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249459-29	SS28-1		0.15 - 0.25																																
	249459-30	SS28		Composite																																
	249459-31	SS28		Composite																																
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249459-35	SS29-1		0.1 - 0.2																																
	249459-36	SS29		0.2-0.4																																
	249459-37	SS29		Composite																																
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	249438-23	SS30-1		0.2 - 0.3																																
	249438-24	SS30		0.4 - 0.6																																
	249438-25	SS30		Composite																																
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2	<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
	250072-14	SS31		0.2 - 0.3																																
	250072-15	SS31		Composite																																
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
	250072-17	SS32-1		0.2 - 0.3																																
	250072-18	SS32		0.4-1.0																																
	250072-19	SS32		Composite																																

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Phenols										Halogenated Benzenes														Halogenated Hydrocarbons				Halogenated Phenols						
					3/4-Methylphenol (m/p-cresol)	2,4-dimethylphenol	2,4-dinitrophenol	2-methylphenol	2-nitrophenol	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Phenol	Tributyltin as SN	1,2,3,4-tetrachlorobenzene	1,2,3,5 & 1,2,4,5 Tetrachlorobenzene	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3,5-Trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,6-dichlorophenol	2-chlorophenol	Pentachlorophenol
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg Sn/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.4	0.2	4	0.2	0.2	10	5	4	0.2		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	1	0.001	0.5	1	1	1	1	0.2	0.2	0.2	0.2	0.2	0.2	5
National Assessment Guidelines for Dredging 2009																																							
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249261-10	SS01		0.2 - 0.3																																			
	249261-11	SS01		0.2-0.4																																			
	249261-12	SS01		Composite																																			
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249261-14	SS02		0.2 - 0.3																																			
	249261-15	SS02		0.2-0.4																																			
	249261-16	SS02		Composite																																			
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249261-18	SS03		0.2 - 0.3																																			
	249261-19	SS03		0.2-0.4																																			
	249261-20	SS03		Composite																																			
SS04	250072-1	SS04	09/09/2020	0 - 0.1	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2				<1	<1	<1		<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	250072-2	SS04		0.1 - 0.2																																			
	250072-3	SS04		0.2-0.6																																			
	250072-4	SS04		Composite																																			
SS05	250072-5	SS05	09/09/2020	0 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2				<1	<1	<1		<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	250072-6	SS05		0.2 - 0.4																																			
	250072-7	SS05		0.4-1.0																																			
	250072-8	SS05		Composite																																			
SS06	249740-1	SS6	05/09/2020	0 - 0.1	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249740-2	SS6		0.1 - 0.2																																			
	249740-3	SS6		Composite																																			
	249740-4	SS6		Composite																																			
SS07	249740-5	SS7	05/09/2020	0 - 0.1	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249740-6	SS7		0.2 - 0.3																																			
	249740-7	SS7		0.3-0.5																																			
	249740-8	SS7		Composite																																			
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249261-22	SS08		0.33 - 0.43																																			
	249261-23	SS08		Composite																																			
	249261-24	SS08		Composite																																			
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249261-26	SS09-2		1.4 - 1.47	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249261-27	SS09		0.2 - 0.3																																			
	249261-28	SS09		0.8-1.2																																			
	249261-29	SS09		Composite																																			

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Phenols										Halogenated Benzenes													Halogenated Hydrocarbons				Halogenated Phenols						
					3/4-Methylphenol (m/p-cresol)	2,4-dimethylphenol	2,4-dinitrophenol	2-methylphenol	2-nitrophenol	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Phenol	Tributyltin as SN	1,2,3,4-tetrachlorobenzene	1,2,3,5 & 1,2,4,5 Tetrachlorobenzene	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3,5-Trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,6-dichlorophenol	2-chlorophenol	Pentachlorophenol
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg Sn/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.4	0.2	4	0.2	0.2	10	5	4	0.2		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	1	0.001	0.5	1	1	1	1	0.2	0.2	0.2	0.2	0.2	0.2	5
National Assessment Guidelines for Dredging 2009																																							
SS10	250072-9	SS10	09/09/2020	0 - 0.1																																			
	250072-10	SS10		0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2				<1	<1	<1		<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	250072-11	SS10		0.6-0.8																																			
	250072-12	SS10		Composite																																			
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249740-10	SS11-1		0.2 - 0.3																																			
	249740-11	SS11		0.4-1.0																																			
	249740-12	SS11		Composite																																			
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249459-2	SS12-1		0.1 - 0.2																																			
	249459-3	SS12		Composite																																			
	249459-4	SS12		Composite																																			
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249459-9	SS13-1		0.1 - 0.2																																			
	249459-10	SS13		0.2-0.5																																			
	249459-11	SS13		Composite																																			
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249459-15	SS14		0.15 - 0.25																																			
	249459-16	SS14		Composite																																			
	249459-17	SS14		Composite																																			
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249459-19	SS15		0.15 - 0.25																																			
	249459-20	SS15		Composite																																			
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249740-14	SS16-1		0.2 - 0.3																																			
	249740-15	SS16		0.3-0.6																																			
	249740-16	SS16		Composite																																			
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249438-2	SS17-1		0.2 - 0.3																																			
	249438-3	SS17		0.4 - 0.6																																			
	249438-4	SS17		Composite																																			
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249438-8	SS18-1		0.2 - 0.3																																			
	249438-9	SS18		Composite																																			
	249438-10	SS18		Composite																																			
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249740-20	SS19-1		0.2 - 0.3																																			
	249740-21	SS19-1		Composite																																			

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Phenols										Halogenated Benzenes														Halogenated Hydrocarbons				Halogenated Phenols						
					3/4-Methylphenol (m/p-cresol)	2,4-dimethylphenol	2,4-dinitrophenol	2-methylphenol	2-nitrophenol	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Phenol	Tributyltin as SN	1,2,3,4-tetrachlorobenzene	1,2,3,5 & 1,2,4,5 Tetrachlorobenzene	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3,5-Trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,6-dichlorophenol	2-chlorophenol	Pentachlorophenol
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg Sn/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.4	0.2	4	0.2	0.2	10	5	4	0.2		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	1	0.001	0.5	1	1	1	1	0.2	0.2	0.2	0.2	0.2	0.2	5
National Assessment Guidelines for Dredging 2009																																							
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249438-14	SS21-1		0.2 - 0.3																																			
	249438-15	SS21		0.5-0.7																																			
	249438-16	SS21		Composite																																			
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249261-6	SS22		0.2 - 0.3																																			
	249261-7	SS22		0.2 - 0.3																																			
	249261-8	SS22		Composite																																			
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249438-20	SS23		0.13 - 0.23																																			
	249438-21	SS23		Composite																																			
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249459-22	SS24-1		0.1 - 0.2																																			
	249459-23	SS24		0.2-0.5																																			
	249459-24	SS24		Composite																																			
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249261-2	SS26		0.2 - 0.3																																			
	249261-3	SS26		0.2-0.45																																			
	249261-4	SS26		Composite																																			
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249740-23	SS27-1		0.1 - 0.2																																			
	249740-24	SS27		0.2-0.6																																			
	249740-25	SS27		Composite																																			
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.001	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249459-29	SS28-1		0.15 - 0.25																																			
	249459-30	SS28		Composite																																			
	249459-31	SS28		Composite																																			
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249459-35	SS29-1		0.1 - 0.2																																			
	249459-36	SS29		0.2-0.4																																			
	249459-37	SS29		Composite																																			
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	249438-23	SS30-1		0.2 - 0.3																																			
	249438-24	SS30		0.4 - 0.6																																			
	249438-25	SS30		Composite																																			
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2				<1	<1	<1		<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	250072-14	SS31		0.2 - 0.3																																			
	250072-15	SS31		Composite																																			
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.001	<0.5	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
	250072-17	SS32-1		0.2 - 0.3																																			
	250072-18	SS32		0.4-1.0																																			
	250072-19	SS32		Composite																																			

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Nitrogen (Organic)	pH 1:5 soil:water1:5 soil:water	Ammonia	Kjeldahl Nitrogen Total	Moisture	Nitrate (as NO3-)	Nitrite (as NO2-)	Nitrogen (Total Oxidised)	Nitrogen (Total)	Phosphate (as P)	Phosphorus	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Oxychlordane
					Inorganics											Organochlorine Pesticides																			
					mg/kg	pH Units	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					10		0.5	10	0.1	0.1	0.1	0.1	10	0.5	10	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
National Assessment Guidelines for Dredging 2009																				0.5	0.5		2	1.6	280				10						
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2	150	8.3	3.3	160	13	<0.1	<0.1	<0.1	160	<0.5	310																				
	249261-10	SS01		0.2 - 0.3					20																										
	249261-11	SS01		0.2-0.4																															
	249261-12	SS01		Composite																															
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2	150	8.4	3.3	150	13	<0.1	<0.1	<0.1	150	<0.5	260																				
	249261-14	SS02		0.2 - 0.3					17																										
	249261-15	SS02		0.2-0.4																															
	249261-16	SS02		Composite																															
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2	23	8.5	3.5	27	8.8	<0.1	<0.1	<0.1	27	<0.5	63																				
	249261-18	SS03		0.2 - 0.3					22																										
	249261-19	SS03		0.2-0.4																															
	249261-20	SS03		Composite																															
SS04	250072-1	SS04	09/09/2020	0 - 0.1	200	8.1	3.1	210	21	<0.1	<0.1	0.11	210	<0.5	430																				
	250072-2	SS04		0.1 - 0.2					24																										
	250072-3	SS04		0.2-0.6																															
	250072-4	SS04		Composite																															
SS05	250072-5	SS05	09/09/2020	0 - 0.2	85	7.7	3	88	20	<0.1	<0.1	<0.1	88	<0.5	120																				
	250072-6	SS05		0.2 - 0.4					35																										
	250072-7	SS05		0.4-1.0																															
	250072-8	SS05		Composite																															
SS06	249740-1	SS6	05/09/2020	0 - 0.1	220	8	6.3	230	26	0.14	<0.1	0.16	230	<0.5	410																				
	249740-2	SS6		0.1 - 0.2					23																										
	249740-3	SS6		Composite																															
	249740-4	SS6		Composite																															
SS07	249740-5	SS7	05/09/2020	0 - 0.1	240	8.1	9	250	26	0.29	<0.1	0.35	250	<0.5	310																				
	249740-6	SS7		0.2 - 0.3					22																										
	249740-7	SS7		0.3-0.5																															
	249740-8	SS7		Composite																															
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33	140	8.4	3	140	9.4	<0.1	<0.1	<0.1	140	<0.5	76																				
	249261-22	SS08		0.33 - 0.43					21																										
	249261-23	SS08		Composite																															
	249261-24	SS08		Composite																															
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2	140	8.5	3.6	140	12	0.1	<0.1	0.12	140	<0.5	320																				
	249261-26	SS09-2		1.4 - 1.47	66	8.5	2.9	69	9	<0.1	<0.1	<0.1	69	<0.5	110																				
	249261-27	SS09		0.2 - 0.3					21																										
	249261-28	SS09		0.8-1.2																															
	249261-29	SS09		Composite																															

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Inorganics											Organochlorine Pesticides																		
					Nitrogen (Organic)	pH 1:5 soil:water1:5 soil:water	Ammonia	Kjeldahl Nitrogen Total	Moisture	Nitrate (as NO3-)	Nitrite (as NO2-)	Nitrogen (Total Oxidised)	Nitrogen (Total)	Phosphate (as P)	Phosphorus	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Oxychlordane
					mg/kg	pH Units	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					10		0.5	10	0.1	0.1	0.1	0.1	10	0.5	10	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
National Assessment Guidelines for Dredging 2009																				0.5	0.5		2	1.6	280				10					
SS10	250072-9	SS10	09/09/2020	0 - 0.1					18																									
	250072-10	SS10		0.1 - 0.2	220	7.8	3.4	220	24	<0.1	<0.1	<0.1	220	<0.5	180																			
	250072-11	SS10		0.6-0.8																														
	250072-12	SS10		Composite																														
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2	130	8.1	5.5	140	21	<0.1	<0.1	<0.1	140	0.88	180																			
	249740-10	SS11-1		0.2 - 0.3					18																									
	249740-11	SS11		0.4-1.0																														
	249740-12	SS11		Composite																														
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1	96	8.1	6.5	100	23	0.19	<0.1	0.22	100	<0.5	200																			
	249459-2	SS12-1		0.1 - 0.2					20																									
	249459-3	SS12		Composite																														
	249459-4	SS12		Composite																														
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1	76	8.1	2.9	79	21	<0.1	<0.1	<0.1	79	<0.5	94																			
	249459-9	SS13-1		0.1 - 0.2					22																									
	249459-10	SS13		0.2-0.5																														
	249459-11	SS13		Composite																														
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15	180	8.1	3.3	180	22	0.13	<0.1	0.14	180	<0.5	190																			
	249459-15	SS14		0.15 - 0.25					16																									
	249459-16	SS14		Composite																														
	249459-17	SS14		Composite																														
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15	92	8.4	4.9	97	18	<0.1	<0.1	<0.1	97	<0.5	55																			
	249459-19	SS15		0.15 - 0.25					19																									
	249459-20	SS15		Composite																														
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2	93	8.2	3.3	96	21	<0.1	<0.1	<0.1	96	<0.5	110																			
	249740-14	SS16-1		0.2 - 0.3					20																									
	249740-15	SS16		0.3-0.6																														
	249740-16	SS16		Composite																														
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2	88	8.2	4.1	92	10	0.19	<0.1	0.21	92	<0.5	110																			
	249438-2	SS17-1		0.2 - 0.3					12																									
	249438-3	SS17		0.4 - 0.6																														
	249438-4	SS17		Composite																														
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2	210	8.3	3.3	210		<0.1	<0.1	<0.1	210	<0.5	470																			
	249438-8	SS18-1		0.2 - 0.3					23																									
	249438-9	SS18		Composite																														
	249438-10	SS18		Composite																														
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2	98	8.2	3.8	100	17	<0.1	<0.1	<0.1	100	<0.5	320																			
	249740-20	SS19-1		0.2 - 0.3					16																									
	249740-21	SS19-1		Composite																														

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Nitrogen (Organic)	pH 1:5 soil:water1:5 soil:water	Ammonia	Kjeldahl Nitrogen Total	Moisture	Nitrate (as NO3-)	Nitrite (as NO2-)	Nitrogen (Total Oxidised)	Nitrogen (Total)	Phosphate (as P)	Phosphorus	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Oxychlordane
					Inorganics											Organochlorine Pesticides																		
					mg/kg	pH Units	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					10		0.5	10	0.1	0.1	0.1	0.1	10	0.5	10	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
National Assessment Guidelines for Dredging 2009																				0.5	0.5		2	1.6	280				10						
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2	180	8.1	3.2	180	13	<0.1	<0.1	<0.1	180	<0.5	170																			
	249438-14	SS21-1		0.2 - 0.3					20																									
	249438-15	SS21		0.5-0.7																														
	249438-16	SS21		Composite																														
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2	93	8.1	5	98	14	<0.1	<0.1	<0.1	98	<0.5	130																			
	249261-6	SS22		0.2 - 0.3					23																									
	249261-7	SS22		0.2 - 0.3					23																									
	249261-8	SS22		Composite																														
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13	220	8.1	14	240		0.13	<0.1	0.19	240	<0.5	200																			
	249438-20	SS23		0.13 - 0.23					27																									
	249438-21	SS23		Composite																														
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1	86	8.2	3.6	90	20	<0.1	<0.1	<0.1	90	<0.5	94																			
	249459-22	SS24-1		0.1 - 0.2					19																									
	249459-23	SS24		0.2-0.5																														
	249459-24	SS24		Composite																														
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2	83	8.2	4.4	87	13	<0.1	<0.1	<0.1	87	<0.5	120																			
	249261-2	SS26		0.2 - 0.3					21																									
	249261-3	SS26		0.2-0.45																														
	249261-4	SS26		Composite																														
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1	200	8.2	6.6	210	22	0.44	<0.1	0.52	210	<0.5	530																			
	249740-23	SS27-1		0.1 - 0.2					18																									
	249740-24	SS27		0.2-0.6																														
	249740-25	SS27		Composite																														
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	110	8	3.6	110	22	<0.1	<0.1	<0.1	110	<0.5	140	<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
	249459-29	SS28-1		0.15 - 0.25					19																									
	249459-30	SS28		Composite																														
	249459-31	SS28		Composite																														
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1	140	8.3	3.2	140	21	<0.1	<0.1	<0.1	140	<0.5	150																			
	249459-35	SS29-1		0.1 - 0.2					20																									
	249459-36	SS29		0.2-0.4																														
	249459-37	SS29		Composite																														
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2	48	8.3	4.1	52		0.23	<0.1	0.26	52	<0.5	58																			
	249438-23	SS30-1		0.2 - 0.3					14																									
	249438-24	SS30		0.4 - 0.6																														
	249438-25	SS30		Composite																														
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2	150	7.9	3.2	160	21	<0.1	<0.1	<0.1	160	<0.5	170																			
	250072-14	SS31		0.2 - 0.3					18																									
	250072-15	SS31		Composite																														
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	120	8.2	3.4	120	21	<0.1	<0.1	<0.1	120	<0.5	130	<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
	250072-17	SS32-1		0.2 - 0.3					19																									
	250072-18	SS32		0.4-1.0																														
	250072-19	SS32		Composite																														

Chemical Table

					Organophosphorous Pesticides											PCBs						Pesticides								
					Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dimethoate	Ethion	Fenitrothion	Fenthion	Malathion	Methyl parathion	Ronnel	PCB 101	PCB 138	PCB 153	PCB 180	PCB 28	PCB 52	Baythroid	Bifenthrin	Carbaryl	Carbofuran	Cypermethrins(total)	Deltamethrin	Esfenvalerate	Parathion	Permethrin (trans)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.1	0.2	0.5	0.5	0.1	0.2	0.2	0.05	0.2
National Assessment Guidelines for Dredging 2009																														
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**																										
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2																										
	249261-10	SS01		0.2 - 0.3																										
	249261-11	SS01		0.2-0.4																										
	249261-12	SS01		Composite																										
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2																										
	249261-14	SS02		0.2 - 0.3																										
	249261-15	SS02		0.2-0.4																										
	249261-16	SS02		Composite																										
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2																										
	249261-18	SS03		0.2 - 0.3																										
	249261-19	SS03		0.2-0.4																										
	249261-20	SS03		Composite																										
SS04	250072-1	SS04	09/09/2020	0 - 0.1																										
	250072-2	SS04		0.1 - 0.2																										
	250072-3	SS04		0.2-0.6																										
	250072-4	SS04		Composite																										
SS05	250072-5	SS05	09/09/2020	0 - 0.2																										
	250072-6	SS05		0.2 - 0.4																										
	250072-7	SS05		0.4-1.0																										
	250072-8	SS05		Composite																										
SS06	249740-1	SS6	05/09/2020	0 - 0.1																										
	249740-2	SS6		0.1 - 0.2																										
	249740-3	SS6		Composite																										
	249740-4	SS6		Composite																										
SS07	249740-5	SS7	05/09/2020	0 - 0.1																										
	249740-6	SS7		0.2 - 0.3																										
	249740-7	SS7		0.3-0.5																										
	249740-8	SS7		Composite																										
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33																										
	249261-22	SS08		0.33 - 0.43																										
	249261-23	SS08		Composite																										
	249261-24	SS08		Composite																										
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2																										
	249261-26	SS09-2		1.4 - 1.47																										
	249261-27	SS09		0.2 - 0.3																										
	249261-28	SS09		0.8-1.2																										
	249261-29	SS09		Composite																										

Chemical Table

					Organophosphorous Pesticides											PCBs						Pesticides								
					Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dimethoate	Ethion	Fenitrothion	Fenthion	Malathion	Methyl parathion	Ronnel	PCB 101	PCB 138	PCB 153	PCB 180	PCB 28	PCB 52	Baythroid	Bifenthrin	Carbaryl	Carbofuran	Cypermethrins(total)	Deltamethrin	Esfenvalerate	Parathion	Permethrin (trans)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.1	0.2	0.5	0.5	0.1	0.2	0.2	0.05	0.2
National Assessment Guidelines for Dredging 2009																														
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**																										
SS10	250072-9	SS10	09/09/2020	0 - 0.1																										
	250072-10	SS10		0.1 - 0.2																										
	250072-11	SS10		0.6-0.8																										
	250072-12	SS10		Composite																										
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2																										
	249740-10	SS11-1		0.2 - 0.3																										
	249740-11	SS11		0.4-1.0																										
	249740-12	SS11		Composite																										
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1																										
	249459-2	SS12-1		0.1 - 0.2																										
	249459-3	SS12		Composite																										
	249459-4	SS12		Composite																										
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1																										
	249459-9	SS13-1		0.1 - 0.2																										
	249459-10	SS13		0.2-0.5																										
	249459-11	SS13		Composite																										
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15																										
	249459-15	SS14		0.15 - 0.25																										
	249459-16	SS14		Composite																										
	249459-17	SS14		Composite																										
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15																										
	249459-19	SS15		0.15 - 0.25																										
	249459-20	SS15		Composite																										
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2																										
	249740-14	SS16-1		0.2 - 0.3																										
	249740-15	SS16		0.3-0.6																										
	249740-16	SS16		Composite																										
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2																										
	249438-2	SS17-1		0.2 - 0.3																										
	249438-3	SS17		0.4 - 0.6																										
	249438-4	SS17		Composite																										
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2																										
	249438-8	SS18-1		0.2 - 0.3																										
	249438-9	SS18		Composite																										
	249438-10	SS18		Composite																										
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2																										
	249740-20	SS19-1		0.2 - 0.3																										
	249740-21	SS19-1		Composite																										

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Organophosphorous Pesticides											PCBs						Pesticides								
					Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dimethoate	Ethion	Fenitrothion	Fenthion	Malathion	Methyl parathion	Ronnel	PCB 101	PCB 138	PCB 153	PCB 180	PCB 28	PCB 52	Baythroid	Bifenthrin	Carbaryl	Carbofuran	Cypermethrins(total)	Deltamethrin	Esfenvalerate	Parathion	Permethrin (trans)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.1	0.2	0.5	0.5	0.1	0.2	0.2	0.05	0.2
National Assessment Guidelines for Dredging 2009																														
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2																										
	249438-14	SS21-1		0.2 - 0.3																										
	249438-15	SS21		0.5-0.7																										
	249438-16	SS21		Composite																										
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2																										
	249261-6	SS22		0.2 - 0.3																										
	249261-7	SS22		0.2 - 0.3																										
	249261-8	SS22		Composite																										
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13																										
	249438-20	SS23		0.13 - 0.23																										
	249438-21	SS23		Composite																										
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1																										
	249459-22	SS24-1		0.1 - 0.2																										
	249459-23	SS24		0.2-0.5																										
	249459-24	SS24		Composite																										
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2																										
	249261-2	SS26		0.2 - 0.3																										
	249261-3	SS26		0.2-0.45																										
	249261-4	SS26		Composite																										
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1																										
	249740-23	SS27-1		0.1 - 0.2																										
	249740-24	SS27		0.2-0.6																										
	249740-25	SS27		Composite																										
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.1	<0.2	<0.5	<0.5	<0.1	<0.2	<0.2	<0.05	<0.2
	249459-29	SS28-1		0.15 - 0.25																										
	249459-30	SS28		Composite																										
	249459-31	SS28		Composite																										
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1																										
	249459-35	SS29-1		0.1 - 0.2																										
	249459-36	SS29		0.2-0.4																										
	249459-37	SS29		Composite																										
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2																										
	249438-23	SS30-1		0.2 - 0.3																										
	249438-24	SS30		0.4 - 0.6																										
	249438-25	SS30		Composite																										
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2																										
	250072-14	SS31		0.2 - 0.3																										
	250072-15	SS31		Composite																										
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.1	<0.2	<0.5	<0.5	<0.1	<0.2	<0.2	<0.05	<0.2
	250072-17	SS32-1		0.2 - 0.3																										
	250072-18	SS32		0.4-1.0																										
	250072-19	SS32		Composite																										

Chemical Table

					Herbicides										Organic	Solvents	Polychlorinated Biphenyls	Cyanides	PCDDs and PCDFs		Dioxins/Furans																					
					Metribuzin	Ametryn	Atrazine	Cyanazine	Hexazinone	Molinate	Prometryn	Propazine	Simazine	Terbutryn	Terbutylazine	MTBE	PCBs (Sum of total)	Cyanide Total	1,2,3,7,8,9-Hexachlorooxanthrene	2,3,7,8-Tetrachlorooxanthrene	1,2,3,4,6,7,8-HpCDD I-TEQ1 zero	1,2,3,4,6,7,8-HpCDD I-TEQ2 0.5 PQL	1,2,3,4,6,7,8-HpCDD I-TEQ3 PQL	1,2,3,4,6,7,8-HpCDD WHO-TEQ1 zero	1,2,3,4,6,7,8-HpCDD WHO-TEQ2 0.5 PQL	1,2,3,4,6,7,8-HpCDD WHO-TEQ3 PQL	1,2,3,4,6,7,8-HpCDF I-TEQ1 zero	1,2,3,4,6,7,8-HpCDF I-TEQ2 0.5 PQL	1,2,3,4,6,7,8-HpCDF I-TEQ3 PQL	1,2,3,4,6,7,8-HpCDF WHO-TEQ1 zero	1,2,3,4,6,7,8-HpCDF WHO-TEQ2 (0.5 PQL)	1,2,3,4,6,7,8-HpCDF WHO-TEQ3 PQL	1,2,3,4,7,8,9-HpCDF I-TEQ1 zero	1,2,3,4,7,8,9-HpCDF I-TEQ2 0.5 PQL	1,2,3,4,7,8,9-HpCDF I-TEQ3 PQL	1,2,3,4,7,8,9-HpCDF WHO-TEQ1 zero	1,2,3,4,7,8,9-HpCDF WHO-TEQ2 (0.5 PQL)	1,2,3,4,7,8,9-HpCDF WHO-TEQ3 PQL	1,2,3,4,7,8-HxCDD I-TEQ1 zero	1,2,3,4,7,8-HxCDD I-TEQ2 0.5 (PQL)	1,2,3,4,7,8-HxCDD I-TEQ3 PQL	1,2,3,4,7,8-HxCDD WHO-TEQ1(zero)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.001	0.005	0.25	5	1																						
National Assessment Guidelines for Dredging 2009																	2	500																								
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**																																						
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2																																						
	249261-10	SS01		0.2 - 0.3																																						
	249261-11	SS01		0.2-0.4																																						
	249261-12	SS01		Composite																																						
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2																																						
	249261-14	SS02		0.2 - 0.3																																						
	249261-15	SS02		0.2-0.4																																						
	249261-16	SS02		Composite																																						
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2																																						
	249261-18	SS03		0.2 - 0.3																																						
	249261-19	SS03		0.2-0.4																																						
	249261-20	SS03		Composite																																						
SS04	250072-1	SS04	09/09/2020	0 - 0.1																																						
	250072-2	SS04		0.1 - 0.2																																						
	250072-3	SS04		0.2-0.6																																						
	250072-4	SS04		Composite																																						
SS05	250072-5	SS05	09/09/2020	0 - 0.2																																						
	250072-6	SS05		0.2 - 0.4																																						
	250072-7	SS05		0.4-1.0																																						
	250072-8	SS05		Composite																																						
SS06	249740-1	SS6	05/09/2020	0 - 0.1																																						
	249740-2	SS6		0.1 - 0.2																																						
	249740-3	SS6		Composite																																						
	249740-4	SS6		Composite																																						
SS07	249740-5	SS7	05/09/2020	0 - 0.1																																						
	249740-6	SS7		0.2 - 0.3																																						
	249740-7	SS7		0.3-0.5																																						
	249740-8	SS7		Composite																																						
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33																																						
	249261-22	SS08		0.33 - 0.43																																						
	249261-23	SS08		Composite																																						
	249261-24	SS08		Composite																																						
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2																																						
	249261-26	SS09-2		1.4 - 1.47																																						
	249261-27	SS09		0.2 - 0.3																																						
	249261-28	SS09		0.8-1.2																																						
	249261-29	SS09		Composite																																						

Chemical Table

					Herbicides										Organic	Solvents	Polychlorinated Biphenyls	Cyanides	PCDDs and PCDFs		Dioxins/Furans																				
					Metribuzin	Ametryn	Atrazine	Cyanazine	Hexazinone	Molinate	Prometryn	Propazine	Simazine	Terbutryn	Terbutylazine	MTBE	PCBs (Sum of total)	Cyanide Total	1,2,3,7,8,9-Hexachlorooxanthrene	2,3,7,8-Tetrachlorooxanthrene	1,2,3,4,6,7,8-HpCDD I-TEQ1 zero	1,2,3,4,6,7,8-HpCDD I-TEQ2 0.5 PQL	1,2,3,4,6,7,8-HpCDD I-TEQ3 PQL	1,2,3,4,6,7,8-HpCDD WHO-TEQ1 zero	1,2,3,4,6,7,8-HpCDD WHO-TEQ2 0.5 PQL	1,2,3,4,6,7,8-HpCDD WHO-TEQ3 PQL	1,2,3,4,6,7,8-HpCDF I-TEQ1 zero	1,2,3,4,6,7,8-HpCDF I-TEQ2 0.5 PQL	1,2,3,4,6,7,8-HpCDF I-TEQ3 PQL	1,2,3,4,6,7,8-HpCDF WHO-TEQ1 zero	1,2,3,4,6,7,8-HpCDF WHO-TEQ2 (0.5 PQL)	1,2,3,4,6,7,8-HpCDF WHO-TEQ3 PQL	1,2,3,4,7,8,9-HpCDF I-TEQ1 zero	1,2,3,4,7,8,9-HpCDF I-TEQ2 0.5 PQL	1,2,3,4,7,8,9-HpCDF I-TEQ3 PQL	1,2,3,4,7,8,9-HpCDF WHO-TEQ1 zero	1,2,3,4,7,8,9-HpCDF WHO-TEQ2 (0.5 PQL)	1,2,3,4,7,8,9-HpCDF WHO-TEQ3 PQL	1,2,3,4,7,8-HxCDD I-TEQ1 zero	1,2,3,4,7,8-HxCDD I-TEQ2 0.5 (PQL)	1,2,3,4,7,8-HxCDD I-TEQ3 PQL	1,2,3,4,7,8-HxCDD WHO-TEQ1(zero)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.001	0.005	0.25	5	1																					
National Assessment Guidelines for Dredging 2009																	2	500																							
Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)																																					
SS10	250072-9	SS10	09/09/2020	0 - 0.1																																					
	250072-10	SS10		0.1 - 0.2																																					
	250072-11	SS10		0.6-0.8																																					
	250072-12	SS10		Composite																																					
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2																																					
	249740-10	SS11-1		0.2 - 0.3																																					
	249740-11	SS11		0.4-1.0																																					
	249740-12	SS11		Composite																																					
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1																																					
	249459-2	SS12-1		0.1 - 0.2																																					
	249459-3	SS12		Composite																																					
	249459-4	SS12		Composite																																					
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1																																					
	249459-9	SS13-1		0.1 - 0.2																																					
	249459-10	SS13		0.2-0.5																																					
	249459-11	SS13		Composite																																					
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15																																					
	249459-15	SS14		0.15 - 0.25																																					
	249459-16	SS14		Composite																																					
	249459-17	SS14		Composite																																					
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15																																					
	249459-19	SS15		0.15 - 0.25																																					
	249459-20	SS15		Composite																																					
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2																																					
	249740-14	SS16-1		0.2 - 0.3																																					
	249740-15	SS16		0.3-0.6																																					
	249740-16	SS16		Composite																																					
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2																																					
	249438-2	SS17-1		0.2 - 0.3																																					
	249438-3	SS17		0.4 - 0.6																																					
	249438-4	SS17		Composite																																					
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2																																					
	249438-8	SS18-1		0.2 - 0.3																																					
	249438-9	SS18		Composite																																					
	249438-10	SS18		Composite																																					
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2																																					
	249740-20	SS19-1		0.2 - 0.3																																					
	249740-21	SS19-1		Composite																																					

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Herbicides										Organic	Solvents	Polychlorinated Biphenyls	Cyanides	PCDDs and PCDFs		Dioxins/Furans																							
					Metribuzin	Ametryn	Atrazine	Cyanazine	Hexazinone	Molinate	Prometryn	Propazine	Simazine	Terbutryn	Terbutylazine	MTBE	PCBs (Sum of total)	Cyanide Total	1,2,3,7,8,9-Hexachlorooxanthrene	2,3,7,8-Tetrachlorooxanthrene	1,2,3,4,6,7,8-HpCDD I-TEQ1 zero	1,2,3,4,6,7,8-HpCDD I-TEQ2 0.5 PQL	1,2,3,4,6,7,8-HpCDD I-TEQ3 PQL	1,2,3,4,6,7,8-HpCDD WHO-TEQ1 zero	1,2,3,4,6,7,8-HpCDD WHO-TEQ2 0.5 PQL	1,2,3,4,6,7,8-HpCDD WHO-TEQ3 PQL	1,2,3,4,6,7,8-HpCDF I-TEQ1 zero	1,2,3,4,6,7,8-HpCDF I-TEQ2 0.5 PQL	1,2,3,4,6,7,8-HpCDF I-TEQ3 PQL	1,2,3,4,6,7,8-HpCDF WHO-TEQ1 zero	1,2,3,4,6,7,8-HpCDF WHO-TEQ2 (0.5 PQL)	1,2,3,4,6,7,8-HpCDF WHO-TEQ3 PQL	1,2,3,4,7,8,9-HpCDF I-TEQ1 zero	1,2,3,4,7,8,9-HpCDF I-TEQ2 0.5 PQL	1,2,3,4,7,8,9-HpCDF I-TEQ3 PQL	1,2,3,4,7,8,9-HpCDF WHO-TEQ1 zero	1,2,3,4,7,8,9-HpCDF WHO-TEQ2 (0.5 PQL)	1,2,3,4,7,8,9-HpCDF WHO-TEQ3 PQL	1,2,3,4,7,8-HxCDD I-TEQ1 zero	1,2,3,4,7,8-HxCDD I-TEQ2 0.5 (PQL)	1,2,3,4,7,8-HxCDD I-TEQ3 PQL	1,2,3,4,7,8-HxCDD WHO-TEQ1(zero)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.001	0.005	0.25	5	1																								
National Assessment Guidelines for Dredging 2009																	2	500																										
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2																																								
	249438-14	SS21-1		0.2 - 0.3																																								
	249438-15	SS21		0.5-0.7																																								
	249438-16	SS21		Composite																																								
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2																																								
	249261-6	SS22		0.2 - 0.3																																								
	249261-7	SS22		0.2 - 0.3																																								
	249261-8	SS22		Composite																																								
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13																																								
	249438-20	SS23		0.13 - 0.23																																								
	249438-21	SS23		Composite																																								
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1																																								
	249459-22	SS24-1		0.1 - 0.2																																								
	249459-23	SS24		0.2-0.5																																								
	249459-24	SS24		Composite																																								
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2																																								
	249261-2	SS26		0.2 - 0.3																																								
	249261-3	SS26		0.2-0.45																																								
	249261-4	SS26		Composite																																								
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1																																								
	249740-23	SS27-1		0.1 - 0.2																																								
	249740-24	SS27		0.2-0.6																																								
	249740-25	SS27		Composite																																								
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.005	<0.25	<5	<1	0	0.02	0.05	0	0.02	0.05	0	0.02	0.05	0	0.02	0.05	0	0.02	0.05	0	0.02	0.05	0	0.2	0.5	0
	249459-29	SS28-1		0.15 - 0.25																																								
	249459-30	SS28		Composite																																								
	249459-31	SS28		Composite																																								
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1																																								
	249459-35	SS29-1		0.1 - 0.2																																								
	249459-36	SS29		0.2-0.4																																								
	249459-37	SS29		Composite																																								
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2																																								
	249438-23	SS30-1		0.2 - 0.3																																								
	249438-24	SS30		0.4 - 0.6																																								
	249438-25	SS30		Composite																																								
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2																																								
	250072-14	SS31		0.2 - 0.3																																								
	250072-15	SS31		Composite																																								
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.005	<0.25	<5	<1	0	0.02	0.05	0	0.02	0.05	0	0.02	0.05	0	0.02	0.05	0	0.02	0.05	0	0.02	0.05	0	0.2	0.5	0
	250072-17	SS32-1		0.2 - 0.3																																								
	250072-18	SS32		0.4-1.0																																								
	250072-19	SS32		Composite																																								

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Dioxins/Furans																																								
					1,2,3,4,7,8-HxCDD WHO-TEQ2 (0.5 PQL)	1,2,3,4,7,8-HxCDD WHO-TEQ3(PQL)	1,2,3,4,7,8-HxCDF I-TEQ1 zero	1,2,3,4,7,8-HxCDF I-TEQ2 0.5 PQL	1,2,3,4,7,8-HxCDF I-TEQ3 PQL	1,2,3,4,7,8-HxCDF WHO-TEQ1 zero	1,2,3,4,7,8-HxCDF WHO-TEQ2 (0.5 PQL)	1,2,3,4,7,8-HxCDF WHO-TEQ3 PQL	1,2,3,6,7,8-HxCDD I-TEQ1 (zero)	1,2,3,6,7,8-HxCDD I-TEQ2 0.5 PQL	1,2,3,6,7,8-HxCDD I-TEQ3 PQL	1,2,3,6,7,8-HxCDD WHO-TEQ1 (zero)	1,2,3,6,7,8-HxCDD WHO-TEQ2 0.5 PQL	1,2,3,6,7,8-HxCDD WHO-TEQ3 (PQL)	1,2,3,6,7,8-HxCDF I-TEQ1 zero	1,2,3,6,7,8-HxCDF I-TEQ2 0.5 PQL	1,2,3,6,7,8-HxCDF I-TEQ3 PQL	1,2,3,6,7,8-HxCDF WHO-TEQ1 zero	1,2,3,6,7,8-HxCDF WHO-TEQ2 (0.5 PQL)	1,2,3,6,7,8-HxCDF WHO-TEQ3 PQL	1,2,3,7,8,9-HxCDD I-TEQ1 zero	1,2,3,7,8,9-HxCDD I-TEQ2 0.5 PQL	1,2,3,7,8,9-HxCDD I-TEQ3 PQL	1,2,3,7,8,9-HxCDD WHO-TEQ1 zero	1,2,3,7,8,9-HxCDD WHO-TEQ2 0.5 PQL	1,2,3,7,8,9-HxCDD WHO-TEQ3 PQL	1,2,3,7,8,9-HxCDF I-TEQ1 zero	1,2,3,7,8,9-HxCDF I-TEQ2 0.5 PQL	1,2,3,7,8,9-HxCDF I-TEQ3 PQL	1,2,3,7,8,9-HxCDF WHO-TEQ1 zero	1,2,3,7,8,9-HxCDF WHO-TEQ2 (0.5 PQL)	1,2,3,7,8,9-HxCDF WHO-TEQ3 PQL	1,2,3,7,8-PeCDD I-TEQ1 zero	1,2,3,7,8-PeCDD I-TEQ2 0.5 (PQL)	1,2,3,7,8-PeCDD I-TEQ3 (PQL)	1,2,3,7,8-PeCDD WHO-TEQ1(zero)	1,2,3,7,8-PeCDD WHO-TEQ2 (0.5 PQL)	1,2,3,7,8-PeCDD WHO-TEQ3 PQL	1,2,3,7,8-PeCDF I-TEQ1 zero	1,2,3,7,8-PeCDF I-TEQ2 0.5 PQL	1,2,3,7,8-PeCDF I-TEQ3 PQL	1,2,3,7,8-PeCDF WHO-TEQ1 zero
					pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL																																													
National Assessment Guidelines for Dredging 2009																																													
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2																																									
	249261-10	SS01		0.2 - 0.3																																									
	249261-11	SS01		0.2-0.4																																									
	249261-12	SS01		Composite																																										
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2																																									
	249261-14	SS02		0.2 - 0.3																																									
	249261-15	SS02		0.2-0.4																																									
	249261-16	SS02		Composite																																										
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2																																									
	249261-18	SS03		0.2 - 0.3																																									
	249261-19	SS03		0.2-0.4																																									
	249261-20	SS03		Composite																																										
SS04	250072-1	SS04	09/09/2020	0 - 0.1																																									
	250072-2	SS04		0.1 - 0.2																																									
	250072-3	SS04		0.2-0.6																																									
	250072-4	SS04		Composite																																										
SS05	250072-5	SS05	09/09/2020	0 - 0.2																																									
	250072-6	SS05		0.2 - 0.4																																									
	250072-7	SS05		0.4-1.0																																									
	250072-8	SS05		Composite																																										
SS06	249740-1	SS6	05/09/2020	0 - 0.1																																									
	249740-2	SS6		0.1 - 0.2																																									
	249740-3	SS6		Composite																																										
	249740-4	SS6		Composite																																										
SS07	249740-5	SS7	05/09/2020	0 - 0.1																																									
	249740-6	SS7		0.2 - 0.3																																									
	249740-7	SS7		0.3-0.5																																									
	249740-8	SS7		Composite																																										
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33																																									
	249261-22	SS08		0.33 - 0.43																																									
	249261-23	SS08		Composite																																										
	249261-24	SS08		Composite																																										
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2																																									
	249261-26	SS09-2		1.4 - 1.47																																									
	249261-27	SS09		0.2 - 0.3																																									
	249261-28	SS09		0.8-1.2																																									
	249261-29	SS09		Composite																																										

Chemical Table

					Dioxins/Furans																																									
					1,2,3,4,7,8-HxCDD WHO-TEQ2 (0.5 PQL)	1,2,3,4,7,8-HxCDD WHO-TEQ3(PQL)	1,2,3,4,7,8-HxCDF I-TEQ1 zero	1,2,3,4,7,8-HxCDF I-TEQ2 0.5 PQL	1,2,3,4,7,8-HxCDF I-TEQ3 PQL	1,2,3,4,7,8-HxCDF WHO-TEQ1 zero	1,2,3,4,7,8-HxCDF WHO-TEQ2 (0.5 PQL)	1,2,3,4,7,8-HxCDF WHO-TEQ3 PQL	1,2,3,6,7,8-HxCDD I-TEQ1 (zero)	1,2,3,6,7,8-HxCDD I-TEQ2 0.5 PQL	1,2,3,6,7,8-HxCDD I-TEQ3 PQL	1,2,3,6,7,8-HxCDD WHO-TEQ1 (zero)	1,2,3,6,7,8-HxCDD WHO-TEQ2 0.5 PQL	1,2,3,6,7,8-HxCDD WHO-TEQ3 (PQL)	1,2,3,6,7,8-HxCDF I-TEQ1 zero	1,2,3,6,7,8-HxCDF I-TEQ2 0.5 PQL	1,2,3,6,7,8-HxCDF I-TEQ3 PQL	1,2,3,6,7,8-HxCDF WHO-TEQ1 zero	1,2,3,6,7,8-HxCDF WHO-TEQ2 (0.5 PQL)	1,2,3,6,7,8-HxCDF WHO-TEQ3 PQL	1,2,3,7,8,9-HxCDD I-TEQ1 zero	1,2,3,7,8,9-HxCDD I-TEQ2 0.5 PQL	1,2,3,7,8,9-HxCDD I-TEQ3 PQL	1,2,3,7,8,9-HxCDD WHO-TEQ1 zero	1,2,3,7,8,9-HxCDD WHO-TEQ2 0.5 PQL	1,2,3,7,8,9-HxCDD WHO-TEQ3 PQL	1,2,3,7,8,9-HxCDF I-TEQ1 zero	1,2,3,7,8,9-HxCDF I-TEQ2 0.5 PQL	1,2,3,7,8,9-HxCDF I-TEQ3 PQL	1,2,3,7,8,9-HxCDF WHO-TEQ1 zero	1,2,3,7,8,9-HxCDF WHO-TEQ2 (0.5 PQL)	1,2,3,7,8,9-HxCDF WHO-TEQ3 PQL	1,2,3,7,8-PeCDD I-TEQ1 zero	1,2,3,7,8-PeCDD I-TEQ2 0.5 (PQL)	1,2,3,7,8-PeCDD I-TEQ3 (PQL)	1,2,3,7,8-PeCDD WHO-TEQ1(zero)	1,2,3,7,8-PeCDD WHO-TEQ2 (0.5 PQL)	1,2,3,7,8-PeCDD WHO-TEQ3 PQL	1,2,3,7,8-PeCDF I-TEQ1 zero	1,2,3,7,8-PeCDF I-TEQ2 0.5 PQL	1,2,3,7,8-PeCDF I-TEQ3 PQL	1,2,3,7,8-PeCDF WHO-TEQ1 zero
					pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL																																														
National Assessment Guidelines for Dredging 2009																																														
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**																																										
SS10	250072-9	SS10	09/09/2020	0 - 0.1																																										
	250072-10	SS10		0.1 - 0.2																																										
	250072-11	SS10		0.6-0.8																																										
	250072-12	SS10		Composite																																										
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2																																										
	249740-10	SS11-1		0.2 - 0.3																																										
	249740-11	SS11		0.4-1.0																																										
	249740-12	SS11		Composite																																										
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1																																										
	249459-2	SS12-1		0.1 - 0.2																																										
	249459-3	SS12		Composite																																										
	249459-4	SS12		Composite																																										
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1																																										
	249459-9	SS13-1		0.1 - 0.2																																										
	249459-10	SS13		0.2-0.5																																										
	249459-11	SS13		Composite																																										
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15																																										
	249459-15	SS14		0.15 - 0.25																																										
	249459-16	SS14		Composite																																										
	249459-17	SS14		Composite																																										
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15																																										
	249459-19	SS15		0.15 - 0.25																																										
	249459-20	SS15		Composite																																										
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2																																										
	249740-14	SS16-1		0.2 - 0.3																																										
	249740-15	SS16		0.3-0.6																																										
	249740-16	SS16		Composite																																										
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2																																										
	249438-2	SS17-1		0.2 - 0.3																																										
	249438-3	SS17		0.4 - 0.6																																										
	249438-4	SS17		Composite																																										
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2																																										
	249438-8	SS18-1		0.2 - 0.3																																										
	249438-9	SS18		Composite																																										
	249438-10	SS18		Composite																																										
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2																																										
	249740-20	SS19-1		0.2 - 0.3																																										
	249740-21	SS19-1		Composite																																										

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Dioxins/Furans																																							
					1,2,3,4,7,8-HxCDD WHO-TEQ2 (0.5 PQL)	1,2,3,4,7,8-HxCDD WHO-TEQ3(PQL)	1,2,3,4,7,8-HxCDF I-TEQ1 zero	1,2,3,4,7,8-HxCDF I-TEQ2 0.5 PQL	1,2,3,4,7,8-HxCDF I-TEQ3 PQL	1,2,3,4,7,8-HxCDF WHO-TEQ1 zero	1,2,3,4,7,8-HxCDF WHO-TEQ2 (0.5 PQL)	1,2,3,4,7,8-HxCDF WHO-TEQ3 PQL	1,2,3,6,7,8-HxCDD I-TEQ1 (zero)	1,2,3,6,7,8-HxCDD I-TEQ2 0.5 PQL	1,2,3,6,7,8-HxCDD I-TEQ3 PQL	1,2,3,6,7,8-HxCDD WHO-TEQ1 (zero)	1,2,3,6,7,8-HxCDD WHO-TEQ2 0.5 PQL	1,2,3,6,7,8-HxCDD WHO-TEQ3 (PQL)	1,2,3,6,7,8-HxCDF I-TEQ1 zero	1,2,3,6,7,8-HxCDF I-TEQ2 0.5 PQL	1,2,3,6,7,8-HxCDF I-TEQ3 PQL	1,2,3,6,7,8-HxCDF WHO-TEQ1 zero	1,2,3,6,7,8-HxCDF WHO-TEQ2 (0.5 PQL)	1,2,3,6,7,8-HxCDF WHO-TEQ3 PQL	1,2,3,7,8,9-HxCDD I-TEQ1 zero	1,2,3,7,8,9-HxCDD I-TEQ2 0.5 PQL	1,2,3,7,8,9-HxCDD I-TEQ3 PQL	1,2,3,7,8,9-HxCDD WHO-TEQ1 zero	1,2,3,7,8,9-HxCDD WHO-TEQ2 0.5 PQL	1,2,3,7,8,9-HxCDD WHO-TEQ3 PQL	1,2,3,7,8,9-HxCDF I-TEQ1 zero	1,2,3,7,8,9-HxCDF I-TEQ2 0.5 PQL	1,2,3,7,8,9-HxCDF I-TEQ3 PQL	1,2,3,7,8,9-HxCDF WHO-TEQ1 zero	1,2,3,7,8,9-HxCDF WHO-TEQ2 (0.5 PQL)	1,2,3,7,8,9-HxCDF WHO-TEQ3 PQL	1,2,3,7,8-PeCDD I-TEQ1 zero	1,2,3,7,8-PeCDD I-TEQ2 0.5 (PQL)	1,2,3,7,8-PeCDD I-TEQ3 (PQL)	1,2,3,7,8-PeCDD WHO-TEQ1(zero)	1,2,3,7,8-PeCDD WHO-TEQ2 (0.5 PQL)	1,2,3,7,8-PeCDD WHO-TEQ3 PQL	1,2,3,7,8-PeCDF I-TEQ1 zero	1,2,3,7,8-PeCDF I-TEQ2 0.5 PQL	1,2,3,7,8-PeCDF I-TEQ3 PQL	1,2,3,7,8-PeCDF WHO-TEQ1 zero
					pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL																																												
National Assessment Guidelines for Dredging 2009																																												
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2																																								
	249438-14	SS21-1		0.2 - 0.3																																								
	249438-15	SS21		0.5-0.7																																								
	249438-16	SS21		Composite																																								
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2																																								
	249261-6	SS22		0.2 - 0.3																																								
	249261-7	SS22		0.2 - 0.3																																								
	249261-8	SS22		Composite																																								
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13																																								
	249438-20	SS23		0.13 - 0.23																																								
	249438-21	SS23		Composite																																								
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1																																								
	249459-22	SS24-1		0.1 - 0.2																																								
	249459-23	SS24		0.2-0.5																																								
	249459-24	SS24		Composite																																								
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2																																								
	249261-2	SS26		0.2 - 0.3																																								
	249261-3	SS26		0.2-0.45																																								
	249261-4	SS26		Composite																																								
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1																																								
	249740-23	SS27-1		0.1 - 0.2																																								
	249740-24	SS27		0.2-0.6																																								
	249740-25	SS27		Composite																																								
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	1	2	0	2	5	0	0.1	0.2	0
	249459-29	SS28-1		0.15 - 0.25																																								
	249459-30	SS28		Composite																																								
	249459-31	SS28		Composite																																								
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1																																								
	249459-35	SS29-1		0.1 - 0.2																																								
	249459-36	SS29		0.2-0.4																																								
	249459-37	SS29		Composite																																								
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2																																								
	249438-23	SS30-1		0.2 - 0.3																																								
	249438-24	SS30		0.4 - 0.6																																								
	249438-25	SS30		Composite																																								
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2																																								
	250072-14	SS31		0.2 - 0.3																																								
	250072-15	SS31		Composite																																								
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	0.2	0.5	0	1	2	0	2	5	0	0.1	0.2	0
	250072-17	SS32-1		0.2 - 0.3																																								
	250072-18	SS32		0.4-1.0																																								
	250072-19	SS32		Composite																																								

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Dioxins/Furans																																							
					1,2,3,7,8-PeCDF WHO-TEQ2 (0.5 PQL)	1,2,3,7,8-PeCDF WHO-TEQ3 PQL	2,3,4,6,7,8-HxCDF I-TEQ1 zero	2,3,4,6,7,8-HxCDF I-TEQ2 0.5 PQL	2,3,4,6,7,8-HxCDF I-TEQ3 PQL	2,3,4,6,7,8-HxCDF WHO-TEQ1 zero	2,3,4,6,7,8-HxCDF WHO-TEQ2 (0.5 PQL)	2,3,4,6,7,8-HxCDF WHO-TEQ3 PQL	2,3,4,7,8-PeCDF I-TEQ1 zero	2,3,4,7,8-PeCDF I-TEQ2 0.5 PQL	2,3,4,7,8-PeCDF I-TEQ3 PQL	2,3,4,7,8-PeCDF WHO-TEQ1	2,3,4,7,8-PeCDF WHO-TEQ2 (0.5 PQL)	2,3,4,7,8-PeCDF WHO-TEQ3 PQL	2,3,7,8-TCDD I-TEQ1 (zero)	2,3,7,8-TCDD I-TEQ2 (0.5 PQL)	2,3,7,8-TCDD I-TEQ3 PQL	2,3,7,8-TCDD WHO-TEQ1 (zero)	2,3,7,8-TCDD WHO-TEQ2 (0.5 PQL)	2,3,7,8-TCDD WHO-TEQ3 PQL	2,3,7,8-TCDF I-TEQ1 zero	2,3,7,8-TCDF I-TEQ2 0.5 PQL	2,3,7,8-TCDF I-TEQ3 PQL	2,3,7,8-TCDF WHO-TEQ1 zero	2,3,7,8-TCDF WHO-TEQ2 (0.5 PQL)	2,3,7,8-TCDF WHO-TEQ3 PQL	Cyhalothrin	Dibutyltin as Sn	Irgarol	Monobutyltin as Sn	OCDD I-TEQ1 zero	OCDD I-TEQ2 0.5 PQL	OCDD I-TEQ3 PQL	OCDD WHO-TEQ1 zero	OCDD WHO-TEQ2 0.5 PQL	OCDD WHO-TEQ3 PQL	OCDF I-TEQ1 zero	OCDF I-TEQ2 0.5 PQL	OCDF I-TEQ3 PQL	OCDF WHO-TEQ1 zero	OCDF WHO-TEQ2 (0.5 PQL)	OCDF WHO-TEQ3 PQL
					pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	mg/kg	µg Sn/kg	mg/kg	µg Sn/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL																														0.2	0.5	0.5	0.5											
National Assessment Guidelines for Dredging 2009																																												
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2																																								
	249261-10	SS01		0.2 - 0.3																																								
	249261-11	SS01		0.2-0.4																																								
	249261-12	SS01		Composite																																								
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2																																								
	249261-14	SS02		0.2 - 0.3																																								
	249261-15	SS02		0.2-0.4																																								
	249261-16	SS02		Composite																																								
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2																																								
	249261-18	SS03		0.2 - 0.3																																								
	249261-19	SS03		0.2-0.4																																								
	249261-20	SS03		Composite																																								
SS04	250072-1	SS04	09/09/2020	0 - 0.1																																								
	250072-2	SS04		0.1 - 0.2																																								
	250072-3	SS04		0.2-0.6																																								
	250072-4	SS04		Composite																																								
SS05	250072-5	SS05	09/09/2020	0 - 0.2																																								
	250072-6	SS05		0.2 - 0.4																																								
	250072-7	SS05		0.4-1.0																																								
	250072-8	SS05		Composite																																								
SS06	249740-1	SS6	05/09/2020	0 - 0.1																																								
	249740-2	SS6		0.1 - 0.2																																								
	249740-3	SS6		Composite																																								
	249740-4	SS6		Composite																																								
SS07	249740-5	SS7	05/09/2020	0 - 0.1																																								
	249740-6	SS7		0.2 - 0.3																																								
	249740-7	SS7		0.3-0.5																																								
	249740-8	SS7		Composite																																								
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33																																								
	249261-22	SS08		0.33 - 0.43																																								
	249261-23	SS08		Composite																																								
	249261-24	SS08		Composite																																								
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2																																								
	249261-26	SS09-2		1.4 - 1.47																																								
	249261-27	SS09		0.2 - 0.3																																								
	249261-28	SS09		0.8-1.2																																								
	249261-29	SS09		Composite																																								

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	1,2,3,7,8-PeCDF WHO-TEQ2 (0.5 PQL)	1,2,3,7,8-PeCDF WHO-TEQ3 PQL	2,3,4,6,7,8-HxCDF I-TEQ1 zero	2,3,4,6,7,8-HxCDF I-TEQ2 0.5 PQL	2,3,4,6,7,8-HxCDF I-TEQ3 PQL	2,3,4,6,7,8-HxCDF WHO-TEQ1 zero	2,3,4,6,7,8-HxCDF WHO-TEQ2 (0.5 PQL)	2,3,4,6,7,8-HxCDF WHO-TEQ3 PQL	2,3,4,7,8-PeCDF I-TEQ1 zero	2,3,4,7,8-PeCDF I-TEQ2 0.5 PQL	2,3,4,7,8-PeCDF I-TEQ3 PQL	2,3,4,7,8-PeCDF WHO-TEQ1	2,3,4,7,8-PeCDF WHO-TEQ2 (0.5 PQL)	2,3,4,7,8-PeCDF WHO-TEQ3 PQL	2,3,7,8-TCDD I-TEQ1 (zero)	2,3,7,8-TCDD I-TEQ2 (0.5 PQL)	2,3,7,8-TCDD I-TEQ3 PQL	2,3,7,8-TCDD WHO-TEQ1 (zero)	2,3,7,8-TCDD WHO-TEQ2 (0.5 PQL)	2,3,7,8-TCDD WHO-TEQ3 PQL	2,3,7,8-TCDF I-TEQ1 zero	2,3,7,8-TCDF I-TEQ2 0.5 PQL	2,3,7,8-TCDF I-TEQ3 PQL	2,3,7,8-TCDF WHO-TEQ1 zero	2,3,7,8-TCDF WHO-TEQ2 (0.5 PQL)	2,3,7,8-TCDF WHO-TEQ3 PQL	Cyhalothrin	Dibutyltin as Sn	Irgarol	Monobutyltin as Sn	OCDD I-TEQ1 zero	OCDD I-TEQ2 0.5 PQL	OCDD I-TEQ3 PQL	OCDD WHO-TEQ1 zero	OCDD WHO-TEQ2 0.5 PQL	OCDD WHO-TEQ3 PQL	OCDF I-TEQ1 zero	OCDF I-TEQ2 0.5 PQL	OCDF I-TEQ3 PQL	OCDF WHO-TEQ1 zero	OCDF WHO-TEQ2 (0.5 PQL)	OCDF WHO-TEQ3 PQL
					Dioxins/Furans																																										
					pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	mg/kg	µg Sn/kg	mg/kg	µg Sn/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL																														0.2	0.5	0.5	0.5													
National Assessment Guidelines for Dredging 2009																																															
SS10	250072-9	SS10	09/09/2020	0 - 0.1																																											
	250072-10	SS10		0.1 - 0.2																																											
	250072-11	SS10		0.6-0.8																																											
	250072-12	SS10		Composite																																											
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2																																											
	249740-10	SS11-1		0.2 - 0.3																																											
	249740-11	SS11		0.4-1.0																																											
	249740-12	SS11		Composite																																											
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1																																											
	249459-2	SS12-1		0.1 - 0.2																																											
	249459-3	SS12		Composite																																											
	249459-4	SS12		Composite																																											
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1																																											
	249459-9	SS13-1		0.1 - 0.2																																											
	249459-10	SS13		0.2-0.5																																											
	249459-11	SS13		Composite																																											
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15																																											
	249459-15	SS14		0.15 - 0.25																																											
	249459-16	SS14		Composite																																											
	249459-17	SS14		Composite																																											
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15																																											
	249459-19	SS15		0.15 - 0.25																																											
	249459-20	SS15		Composite																																											
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2																																											
	249740-14	SS16-1		0.2 - 0.3																																											
	249740-15	SS16		0.3-0.6																																											
	249740-16	SS16		Composite																																											
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2																																											
	249438-2	SS17-1		0.2 - 0.3																																											
	249438-3	SS17		0.4 - 0.6																																											
	249438-4	SS17		Composite																																											
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2																																											
	249438-8	SS18-1		0.2 - 0.3																																											
	249438-9	SS18		Composite																																											
	249438-10	SS18		Composite																																											
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2																																											
	249740-20	SS19-1		0.2 - 0.3																																											
	249740-21	SS19-1		Composite																																											

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Dioxins/Furans																																							
					1,2,3,7,8-PeCDF WHO-TEQ2 (0.5 PQL)	1,2,3,7,8-PeCDF WHO-TEQ3 PQL	2,3,4,6,7,8-HxCDF I-TEQ1 zero	2,3,4,6,7,8-HxCDF I-TEQ2 0.5 PQL	2,3,4,6,7,8-HxCDF I-TEQ3 PQL	2,3,4,6,7,8-HxCDF WHO-TEQ1 zero	2,3,4,6,7,8-HxCDF WHO-TEQ2 (0.5 PQL)	2,3,4,6,7,8-HxCDF WHO-TEQ3 PQL	2,3,4,7,8-PeCDF I-TEQ1 zero	2,3,4,7,8-PeCDF I-TEQ2 0.5 PQL	2,3,4,7,8-PeCDF I-TEQ3 PQL	2,3,4,7,8-PeCDF WHO-TEQ1	2,3,4,7,8-PeCDF WHO-TEQ2 (0.5 PQL)	2,3,4,7,8-PeCDF WHO-TEQ3 PQL	2,3,7,8-TCDD I-TEQ1 (zero)	2,3,7,8-TCDD I-TEQ2 (0.5 PQL)	2,3,7,8-TCDD I-TEQ3 PQL	2,3,7,8-TCDD WHO-TEQ1 (zero)	2,3,7,8-TCDD WHO-TEQ2 (0.5 PQL)	2,3,7,8-TCDD WHO-TEQ3 PQL	2,3,7,8-TCDF I-TEQ1 zero	2,3,7,8-TCDF I-TEQ2 0.5 PQL	2,3,7,8-TCDF I-TEQ3 PQL	2,3,7,8-TCDF WHO-TEQ1 zero	2,3,7,8-TCDF WHO-TEQ2 (0.5 PQL)	2,3,7,8-TCDF WHO-TEQ3 PQL	Cyhalothrin	Dibutyltin as Sn	Irgarol	Monobutyltin as Sn	OCDD I-TEQ1 zero	OCDD I-TEQ2 0.5 PQL	OCDD I-TEQ3 PQL	OCDD WHO-TEQ1 zero	OCDD WHO-TEQ2 0.5 PQL	OCDD WHO-TEQ3 PQL	OCDF I-TEQ1 zero	OCDF I-TEQ2 0.5 PQL	OCDF I-TEQ3 PQL	OCDF WHO-TEQ1 zero	OCDF WHO-TEQ2 (0.5 PQL)	OCDF WHO-TEQ3 PQL
					pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	mg/kg	µg Sn/kg	mg/kg	µg Sn/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL																														0.2	0.5	0.5	0.5											
National Assessment Guidelines for Dredging 2009																																												
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2																																								
	249438-14	SS21-1		0.2 - 0.3																																								
	249438-15	SS21		0.5-0.7																																								
	249438-16	SS21		Composite																																								
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2																																								
	249261-6	SS22		0.2 - 0.3																																								
	249261-7	SS22		0.2 - 0.3																																								
	249261-8	SS22		Composite																																								
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13																																								
	249438-20	SS23		0.13 - 0.23																																								
	249438-21	SS23		Composite																																								
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1																																								
	249459-22	SS24-1		0.1 - 0.2																																								
	249459-23	SS24		0.2-0.5																																								
	249459-24	SS24		Composite																																								
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2																																								
	249261-2	SS26		0.2 - 0.3																																								
	249261-3	SS26		0.2-0.45																																								
	249261-4	SS26		Composite																																								
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1																																								
	249740-23	SS27-1		0.1 - 0.2																																								
	249740-24	SS27		0.2-0.6																																								
	249740-25	SS27		Composite																																								
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	0.08	0.2	0	0.2	0.5	0	0.2	0.5	0	1.2	2.5	0	0.8	1.5	0	0.5	1	0	0.5	1	0	0.05	0.1	0	0.05	0.1	<0.2	<0.5	<0.5	0.6	0	0.005	0.01	0	0.002	0.003	0	0.005	0.01	0	0.002	0.003
	249459-29	SS28-1		0.15 - 0.25																																								
	249459-30	SS28		Composite																																								
	249459-31	SS28		Composite																																								
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1																																								
	249459-35	SS29-1		0.1 - 0.2																																								
	249459-36	SS29		0.2-0.4																																								
	249459-37	SS29		Composite																																								
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2																																								
	249438-23	SS30-1		0.2 - 0.3																																								
	249438-24	SS30		0.4 - 0.6																																								
	249438-25	SS30		Composite																																								
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2																																								
	250072-14	SS31		0.2 - 0.3																																								
	250072-15	SS31		Composite																																								
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	0.08	0.2	0	0.2	0.5	0	0.2	0.5	0	1.2	2.5	0	0.8	1.5	0	0.5	1	0	0.5	1	0	0.05	0.1	0	0.05	0.1	<0.2	<0.5	<0.5	4	0.01	0.01	0.01	0.003	0.003	0.003	0	0.005	0.01	0	0.002	0.003
	250072-17	SS32-1		0.2 - 0.3																																								
	250072-18	SS32		0.4-1.0																																								
	250072-19	SS32		Composite																																								

Chemical Table

					Dioxins/Furans							Dioxins														
					Total I-TEQ1 calc (zero)	Total I-TEQ2 calc (half)	Total I-TEQ3 calc (PQL)	Total WHO-TEQ1 calc (zero)	Total WHO-TEQ2 calc (0.5 PQL)	Total WHO-TEQ3 calc (PQL)	Permethrin (cis)	1,2,3,4,6,7,8-Heptachlorooxanthrene	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,2,3,4,7,8-Hexachlorooxanthrene	1,2,3,4,7,8-Hexachlorodibenzofuran	1,2,3,6,7,8-Hexachlorooxanthrene	1,2,3,6,7,8-Hexachlorodibenzofuran	1,2,3,7,8,9-Hexachlorodibenzofuran	1,2,3,7,8-Pentachlorooxanthrene	1,2,3,7,8-Pentachlorodibenzofuran	2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,7,8-Pentachlorodibenzofuran	2,3,7,8-Tetrachlorodibenzofuran	1,2,3,4,6,7,8,9-Octachlorooxanthrene	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
					pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	mg/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL											0.2	5	5	5	5	5	5	5	5	5	5	5	5	1	10	10
National Assessment Guidelines for Dredging 2009																										
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**																						
SS01	249261-9	SS01	26/08/2020	0.1 - 0.2																						
	249261-10	SS01		0.2 - 0.3																						
	249261-11	SS01		0.2-0.4																						
	249261-12	SS01		Composite																						
SS02	249261-13	SS02	26/08/2020	0.1 - 0.2																						
	249261-14	SS02		0.2 - 0.3																						
	249261-15	SS02		0.2-0.4																						
	249261-16	SS02		Composite																						
SS03	249261-17	SS03	26/08/2020	0.1 - 0.2																						
	249261-18	SS03		0.2 - 0.3																						
	249261-19	SS03		0.2-0.4																						
	249261-20	SS03		Composite																						
SS04	250072-1	SS04	09/09/2020	0 - 0.1																						
	250072-2	SS04		0.1 - 0.2																						
	250072-3	SS04		0.2-0.6																						
	250072-4	SS04		Composite																						
SS05	250072-5	SS05	09/09/2020	0 - 0.2																						
	250072-6	SS05		0.2 - 0.4																						
	250072-7	SS05		0.4-1.0																						
	250072-8	SS05		Composite																						
SS06	249740-1	SS6	05/09/2020	0 - 0.1																						
	249740-2	SS6		0.1 - 0.2																						
	249740-3	SS6		Composite																						
	249740-4	SS6		Composite																						
SS07	249740-5	SS7	05/09/2020	0 - 0.1																						
	249740-6	SS7		0.2 - 0.3																						
	249740-7	SS7		0.3-0.5																						
	249740-8	SS7		Composite																						
SS08	249261-21	SS08	26/08/2020	0.23 - 0.33																						
	249261-22	SS08		0.33 - 0.43																						
	249261-23	SS08		Composite																						
	249261-24	SS08		Composite																						
SS09	249261-25	SS09-1	25/08/2020	0.15 - 0.2																						
	249261-26	SS09-2		1.4 - 1.47																						
	249261-27	SS09		0.2 - 0.3																						
	249261-28	SS09		0.8-1.2																						
	249261-29	SS09		Composite																						

Chemical Table

					Dioxins/Furans							Dioxins														
					Total I-TEQ1 calc (zero)	Total I-TEQ2 calc (half)	Total I-TEQ3 calc (PQL)	Total WHO-TEQ1 calc (zero)	Total WHO-TEQ2 calc (0.5 PQL)	Total WHO-TEQ3 calc (PQL)	Permethrin (cis)	1,2,3,4,6,7,8-Heptachlorooxanthrene	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,2,3,4,7,8-Hexachlorooxanthrene	1,2,3,4,7,8-Hexachlorodibenzofuran	1,2,3,6,7,8-Hexachlorooxanthrene	1,2,3,6,7,8-Hexachlorodibenzofuran	1,2,3,7,8,9-Hexachlorodibenzofuran	1,2,3,7,8-Pentachlorooxanthrene	1,2,3,7,8-Pentachlorodibenzofuran	2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,7,8-Pentachlorodibenzofuran	2,3,7,8-Tetrachlorodibenzofuran	1,2,3,4,6,7,8,9-Octachlorooxanthrene	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
					pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	mg/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL											0.2	5	5	5	5	5	5	5	5	5	5	5	5	1	10	10
National Assessment Guidelines for Dredging 2009																										
Location ID	**Lab Sample Code**	**Field ID**	**Date**	**Depth (mBGL)**																						
SS10	250072-9	SS10	09/09/2020	0 - 0.1																						
	250072-10	SS10		0.1 - 0.2																						
	250072-11	SS10		0.6-0.8																						
	250072-12	SS10		Composite																						
SS11	249740-9	SS11-1	05/09/2020	0.1 - 0.2																						
	249740-10	SS11-1		0.2 - 0.3																						
	249740-11	SS11		0.4-1.0																						
	249740-12	SS11		Composite																						
SS12	249459-1	SS12-1	31/08/2020	0 - 0.1																						
	249459-2	SS12-1		0.1 - 0.2																						
	249459-3	SS12		Composite																						
	249459-4	SS12		Composite																						
SS13	249459-8	SS13-1	31/08/2020	0 - 0.1																						
	249459-9	SS13-1		0.1 - 0.2																						
	249459-10	SS13		0.2-0.5																						
	249459-11	SS13		Composite																						
SS14	249459-14	SS14	31/08/2020	0.05 - 0.15																						
	249459-15	SS14		0.15 - 0.25																						
	249459-16	SS14		Composite																						
	249459-17	SS14		Composite																						
SS15	249459-18	SS15	31/08/2020	0.05 - 0.15																						
	249459-19	SS15		0.15 - 0.25																						
	249459-20	SS15		Composite																						
SS16	249740-13	SS16-1	05/09/2020	0.1 - 0.2																						
	249740-14	SS16-1		0.2 - 0.3																						
	249740-15	SS16		0.3-0.6																						
	249740-16	SS16		Composite																						
SS17	249438-1	SS17-1	28/08/2020	0.1 - 0.2																						
	249438-2	SS17-1		0.2 - 0.3																						
	249438-3	SS17		0.4 - 0.6																						
	249438-4	SS17		Composite																						
SS18	249438-7	SS18-1	28/08/2020	0.1 - 2																						
	249438-8	SS18-1		0.2 - 0.3																						
	249438-9	SS18		Composite																						
	249438-10	SS18		Composite																						
SS19	249740-19	SS19-1	05/09/2020	0.1 - 0.2																						
	249740-20	SS19-1		0.2 - 0.3																						
	249740-21	SS19-1		Composite																						

Chemical Table

Location ID	Lab Sample Code	Field ID	Date	Depth (mBGL)	Total I-TEQ1 calc (zero)	Total I-TEQ2 calc (half)	Total I-TEQ3 calc (PQL)	Total WHO-TEQ1 calc (zero)	Total WHO-TEQ2 calc (0.5 PQL)	Total WHO-TEQ3 calc (PQL)	Permethrin (cis)	1,2,3,4,6,7,8-Heptachlorooxanthrene	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,2,3,4,7,8-Hexachlorooxanthrene	1,2,3,4,7,8-Hexachlorodibenzofuran	1,2,3,6,7,8-Hexachlorooxanthrene	1,2,3,6,7,8-Hexachlorodibenzofuran	1,2,3,7,8,9-Hexachlorodibenzofuran	1,2,3,7,8-Pentachlorooxanthrene	1,2,3,7,8-Pentachlorodibenzofuran	2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,7,8-Pentachlorodibenzofuran	2,3,7,8-Tetrachlorodibenzofuran	1,2,3,4,6,7,8,9-Octachlorooxanthrene	1,2,3,4,6,7,8,9-Octachlorodibenzofuran
					Dioxins/Furans							Dioxins															
					pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	mg/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
EQL											0.2	5	5	5	5	5	5	5	5	5	5	5	5	1	10	10
National Assessment Guidelines for Dredging 2009																											
SS21	249438-13	SS21-1	28/08/2020	0.1 - 0.2																							
	249438-14	SS21-1		0.2 - 0.3																							
	249438-15	SS21		0.5-0.7																							
	249438-16	SS21		Composite																							
SS22	249261-5	SS22	25/08/2020	0.1 - 0.2																							
	249261-6	SS22		0.2 - 0.3																							
	249261-7	SS22		0.2 - 0.3																							
	249261-8	SS22		Composite																							
SS23	249438-19	SS23	28/08/2020	0.03 - 0.13																							
	249438-20	SS23		0.13 - 0.23																							
	249438-21	SS23		Composite																							
SS24	249459-21	SS24-1	31/08/2020	0 - 0.1																							
	249459-22	SS24-1		0.1 - 0.2																							
	249459-23	SS24		0.2-0.5																							
	249459-24	SS24		Composite																							
SS26	249261-1	SS26	25/08/2020	0.1 - 0.2																							
	249261-2	SS26		0.2 - 0.3																							
	249261-3	SS26		0.2-0.45																							
	249261-4	SS26		Composite																							
SS27	249740-22	SS27-1	05/09/2020	0 - 0.1																							
	249740-23	SS27-1		0.1 - 0.2																							
	249740-24	SS27		0.2-0.6																							
	249740-25	SS27		Composite																							
SS28	249459-28	SS28-1	31/08/2020	0.05 - 0.15	0	5	10	0	5.7	11	<0.2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<10	<10
	249459-29	SS28-1		0.15 - 0.25																							
	249459-30	SS28		Composite																							
	249459-31	SS28		Composite																							
SS29	249459-34	SS29-1	31/08/2020	0 - 0.1																							
	249459-35	SS29-1		0.1 - 0.2																							
	249459-36	SS29		0.2-0.4																							
	249459-37	SS29		Composite																							
SS30	249438-22	SS30-1	28/08/2020	0.1 - 0.2																							
	249438-23	SS30-1		0.2 - 0.3																							
	249438-24	SS30		0.4 - 0.6																							
	249438-25	SS30		Composite																							
SS31	250072-13	SS31	09/09/2020	0.1 - 0.2																							
	250072-14	SS31		0.2 - 0.3																							
	250072-15	SS31		Composite																							
SS32	250072-16	SS32-1	09/09/2020	0.1 - 0.2	0.01	5	10	0.003	5.7	11	<0.2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	10	<10
	250072-17	SS32-1		0.2 - 0.3																							
	250072-18	SS32		0.4-1.0																							
	250072-19	SS32		Composite																							

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2	20085.03 Arsenic Statistics											
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.109/10/2020 3:17:33 PM								
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	Arsenic											
12												
13	General Statistics											
14	Total Number of Observations					31	Number of Distinct Observations					28
15							Number of Missing Observations					0
16	Minimum					2.2	Mean					9.755
17	Maximum					38	Median					5.5
18	SD					8.907	Std. Error of Mean					1.6
19	Coefficient of Variation					0.913	Skewness					1.674
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic					0.775	Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value					0.929	Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.242	Lilliefors GOF Test					
25	5% Lilliefors Critical Value					0.156	Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL					12.47	95% Adjusted-CLT UCL (Chen-1995)					12.9
31							95% Modified-t UCL (Johnson-1978)					12.55
32												
33	Gamma GOF Test											
34	A-D Test Statistic					1.252	Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value					0.762	Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.178	Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value					0.16	Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)					1.677	k star (bias corrected MLE)					1.536
42	Theta hat (MLE)					5.818	Theta star (bias corrected MLE)					6.352
43	nu hat (MLE)					103.9	nu star (bias corrected)					95.22
44	MLE Mean (bias corrected)					9.755	MLE Sd (bias corrected)					7.871
45							Approximate Chi Square Value (0.05)					73.71
46	Adjusted Level of Significance					0.0413	Adjusted Chi Square Value					72.66
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))					12.6	95% Adjusted Gamma UCL (use when n<50)					12.78
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic					0.93	Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value					0.929	Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic					0.138	Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value					0.156	Data appear Lognormal at 5% Significance Level					

	A	B	C	D	E	F	G	H	I	J	K	L
56	Data appear Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59					Minimum of Logged Data	0.788				Mean of logged Data		1.951
60					Maximum of Logged Data	3.638				SD of logged Data		0.79
61												
62	Assuming Lognormal Distribution											
63					95% H-UCL	13.19				90% Chebyshev (MVUE) UCL		13.94
64					95% Chebyshev (MVUE) UCL	15.96				97.5% Chebyshev (MVUE) UCL		18.76
65					99% Chebyshev (MVUE) UCL	24.25						
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data appear to follow a Discernible Distribution at 5% Significance Level											
69												
70	Nonparametric Distribution Free UCLs											
71					95% CLT UCL	12.39				95% Jackknife UCL		12.47
72					95% Standard Bootstrap UCL	12.32				95% Bootstrap-t UCL		13.35
73					95% Hall's Bootstrap UCL	13.13				95% Percentile Bootstrap UCL		12.35
74					95% BCA Bootstrap UCL	12.9						
75					90% Chebyshev(Mean, Sd) UCL	14.55				95% Chebyshev(Mean, Sd) UCL		16.73
76					97.5% Chebyshev(Mean, Sd) UCL	19.75				99% Chebyshev(Mean, Sd) UCL		25.67
77												
78	Suggested UCL to Use											
79					95% H-UCL	13.19						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86	ProUCL computes and outputs H-statistic based UCLs for historical reasons only.											
87	H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.											
88	It is therefore recommended to avoid the use of H-statistic based 95% UCLs.											
89	Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.											
90												

Duplicate Table

				Metals															
				Aluminium	Antimony	Arsenic	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	0.5	0.5	0.1	0.5	0.5	0.5	1	0.5	1	0.01	0.5	0.1	0.1	0.5	0.5
Sample Code	**Field ID**	**Date**	**Sample Type**																
249261-21	SS08	25/08/2020	Normal	780	<0.5	4.1	<0.1	2.9	<0.5	<0.5	1,900	0.9	19	<0.01	1	0.1	<0.1	6	1.8
249261-30	DUP1		Field_D	850	<0.5	5.4	<0.1	3	<0.5	0.5	2,200	1	23	<0.01	1.3	0.2	<0.1	8.9	2
RPD				9	0	27	0	3	0	0	15	11	19	0	26	**67**	0	**39**	11
249261-22	SS08	25/08/2020	Normal																
249261-31	DUP1		Field_D																
RPD																			
249459-8	SS13-1	31/08/2020	Normal	820	<0.5	3.1	<0.1	3.3	<0.5	<0.5	2,100	1.5	31	0.01	1	<0.1	<0.1	5.6	2.8
249459-40	DUP 2		Field_D	790	<0.5	3.1	<0.1	3.2	<0.5	<0.5	2,000	1.4	31	<0.01	0.9	<0.1	<0.1	5.2	2.6
RPD				4	0	0	0	3	0	0	5	7	0	0	11	0	0	7	7
249459-9	SS13-1	31/08/2020	Normal																
249459-41	DUP 2		Field_D																
RPD																			
250072-5	SS05	09/09/2020	Normal	1,200	<0.5	3.8	<0.1	4.6	<0.5	0.8	2,400	1.6	31	<0.01	1.1	<0.1	<0.1	6.2	3.3
250072-22	DUP 3		Field_D	750	<0.5	2.5	<0.1	3.4	<0.5	<0.5	1,800	1.3	22	<0.01	0.8	<0.1	<0.1	4.6	2.6
RPD				**46**	0	**41**	0	30	0	**46**	29	21	**34**	0	**32**	0	0	30	24
250072-6	SS05	09/09/2020	Normal																
250072-23	DUP 3		Field_D																
RPD																			

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Duplicate Table

				PFAS																		
				Perfluoroheptane sulfonic acid (PFHpS)	EtPerfluorooctanesulf-amid oacetic acid	4:2 FTS	8:2 FTS	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluoroheptanoic acid	Perfluorohexanoic acid	Perfluorooctanesulfonic acid PFOS	Perfluoropentanoic acid	Sum of PFHxS and PFOS	MePerfluorooctanesulf-amid oacetic acid	N-Et perfluorooctanesulfonamid oethanol	N-Ethyl perfluorooctanesulfon amide	N-Me perfluorooctanesulfonamid oethanol	N-Methyl perfluorooctane sulfonamide	Perfluorodecanesulfonic acid	Perfluorodecanoic acid	Perfluorododecanoic acid
				mg/kg	µg/kg	µg/kg	µg/kg	ug/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
EQL				0.0001	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	5	1	1	1	0.2	0.5	0.5
Sample Code	**Field ID**	**Date**	**Sample Type**																			
249261-21	SS08	25/08/2020	Normal																			
249261-30	DUP1		Field_D																			
RPD																						
249261-22	SS08	25/08/2020	Normal	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5
249261-31	DUP1		Field_D	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
249459-8	SS13-1	31/08/2020	Normal																			
249459-40	DUP 2		Field_D																			
RPD																						
249459-9	SS13-1	31/08/2020	Normal	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5
249459-41	DUP 2		Field_D	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250072-5	SS05	09/09/2020	Normal																			
250072-22	DUP 3		Field_D																			
RPD																						
250072-6	SS05	09/09/2020	Normal	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5
250072-23	DUP 3		Field_D	<0.0001	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.2	<0.1	<0.2	<5	<1	<1	<1	<0.2	<0.5	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Duplicate Table

				PFAS										
				Perfluorononanoic acid	Perfluorooctane sulfonamide	Perfluoropentanesulfonic acid	Perfluorotetradecanoic acid	Perfluorotridecanoic acid	Perfluoroundecanoic acid	PFHxS (355-46-4)	Sum of PFAS	Total Positive PFOS & PFOA	10:2 FTS	Perfluorooctanoate
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	µg/kg	µg/kg	mg/kg
EQL				0.1	1	0.1	5	0.5	0.5	0.1	0.0001	0.1	0.1	0.0001
Sample Code	**Field ID**	**Date**	**Sample Type**											
249261-21	SS08	25/08/2020	Normal											
249261-30	DUP1		Field_D											
RPD														
249261-22	SS08	25/08/2020	Normal	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.1	<0.2	<0.0001
249261-31	DUP1		Field_D	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.1	<0.2	<0.0001
RPD				0	0	0	0	0	0	0	0	0	0	0
249459-8	SS13-1	31/08/2020	Normal											
249459-40	DUP 2		Field_D											
RPD														
249459-9	SS13-1	31/08/2020	Normal	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.1	<0.2	<0.0001
249459-41	DUP 2		Field_D	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.1	<0.2	<0.0001
RPD				0	0	0	0	0	0	0	0	0	0	0
250072-5	SS05	09/09/2020	Normal											
250072-22	DUP 3		Field_D											
RPD														
250072-6	SS05	09/09/2020	Normal	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.1	<0.2	<0.0001
250072-23	DUP 3		Field_D	<0.1	<1	<0.1	<5	<0.5	<0.5	<0.1	<0.0001	<0.1	<0.2	<0.0001
RPD				0	0	0	0	0	0	0	0	0	0	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Duplicate Table

				TPH										BTEX				
				C6-C10	C10-C16	C16-C34	C34-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	C10 - C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene Total
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				25	25	25	25	25	25	25	25	100	100	0.2	0.2	0.2	0.2	0.4
Sample Code	**Field ID**	**Date**	**Sample Type**															
249261-21	SS08	25/08/2020	Normal	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4
249261-30	DUP1		Field_D	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
249261-22	SS08	25/08/2020	Normal															
249261-31	DUP1		Field_D															
RPD																		
249459-8	SS13-1	31/08/2020	Normal	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4
249459-40	DUP 2		Field_D	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
249459-9	SS13-1	31/08/2020	Normal															
249459-41	DUP 2		Field_D															
RPD																		
250072-5	SS05	09/09/2020	Normal	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4
250072-22	DUP 3		Field_D	<25	<25	<25	<25	<25	<25	<25	<25	<100	<100	<0.2	<0.2	<0.2	<0.2	<0.4
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250072-6	SS05	09/09/2020	Normal															
250072-23	DUP 3		Field_D															
RPD																		

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Duplicate Table

				PAH																	Other
				Benzo(b+j) & Benzo(k)fluoranthene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Coronene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	6:2 Fluorotelomer Sulfonate (6:2 FtS)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.0001
Sample Code	**Field ID**	**Date**	**Sample Type**																		
249261-21	SS08	25/08/2020	Normal	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
249261-30	DUP1		Field_D	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
249261-22	SS08	25/08/2020	Normal																		<0.0001
249261-31	DUP1		Field_D																		<0.0001
RPD																					0
249459-8	SS13-1	31/08/2020	Normal	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
249459-40	DUP 2		Field_D	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
249459-9	SS13-1	31/08/2020	Normal																		<0.0001
249459-41	DUP 2		Field_D																		<0.0001
RPD																					0
250072-5	SS05	09/09/2020	Normal	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
250072-22	DUP 3		Field_D	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
250072-6	SS05	09/09/2020	Normal																		<0.0001
250072-23	DUP 3		Field_D																		<0.0001
RPD																					0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Duplicate Table

				Chlorinated Hydrocarbons																	
				1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sample Code	**Field ID**	**Date**	**Sample Type**																		
249261-21	SS08	25/08/2020	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
249261-30	DUP1		Field_D	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
249261-22	SS08	25/08/2020	Normal																		
249261-31	DUP1		Field_D																		
RPD																					
249459-8	SS13-1	31/08/2020	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
249459-40	DUP 2		Field_D	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
249459-9	SS13-1	31/08/2020	Normal																		
249459-41	DUP 2		Field_D																		
RPD																					
250072-5	SS05	09/09/2020	Normal	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
250072-22	DUP 3		Field_D	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250072-6	SS05	09/09/2020	Normal																		
250072-23	DUP 3		Field_D																		
RPD																					

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Duplicate Table

				Chlorinated Hydrocarbons													
				Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	1	1	1	1	1	0.5	2	0.5	1	1	1	1	1
Sample Code	**Field ID**	**Date**	**Sample Type**														
249261-21	SS08	25/08/2020	Normal	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
249261-30	DUP1		Field_D	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0
249261-22	SS08	25/08/2020	Normal														
249261-31	DUP1		Field_D														
RPD																	
249459-8	SS13-1	31/08/2020	Normal	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
249459-40	DUP 2		Field_D	<1	<1	<1	<1	<1	<1	<0.5	<2	<0.5	<1	<1	<1	<1	<1
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0
249459-9	SS13-1	31/08/2020	Normal														
249459-41	DUP 2		Field_D														
RPD																	
250072-5	SS05	09/09/2020	Normal	<1	<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	<1
250072-22	DUP 3		Field_D	<1	<1	<1	<1	<1	<1	<1			<1	<1	<1	<1	<1
RPD				0	0	0	0	0	0	0			0	0	0	0	0
250072-6	SS05	09/09/2020	Normal														
250072-23	DUP 3		Field_D														
RPD																	

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Duplicate Table

				Phenols									Halogenated Benzenes													
				3/4-Methylphenol (m/p-cresol)	2,4-dimethylphenol	2,4-dinitrophenol	2-methylphenol	2-nitrophenol	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Phenol	1,2,3,4-tetrachlorobenzene	1,2,3,5 & 1,2,4,5 Tetrachlorobenzene	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3,5-Trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.4	0.2	4	0.2	0.2	10	5	4	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	1	0.5	0.5
Sample Code	**Field ID**	**Date**	**Sample Type**																							
249261-21	SS08	25/08/2020	Normal	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5
249261-30	DUP1		Field_D	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
249261-22	SS08	25/08/2020	Normal																							
249261-31	DUP1		Field_D																							
RPD																										
249459-8	SS13-1	31/08/2020	Normal	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5
249459-40	DUP 2		Field_D	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
249459-9	SS13-1	31/08/2020	Normal																							
249459-41	DUP 2		Field_D																							
RPD																										
250072-5	SS05	09/09/2020	Normal	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2			<1	<1	<1		<1	<1	<1	<1	<1	<1		
250072-22	DUP 3		Field_D	<0.4	<0.2	<4	<0.2	<0.2	<10	<5	<4	<0.2			<1	<1	<1		<1	<1	<1	<1	<1	<1		
RPD				0	0	0	0	0	0	0	0	0			0	0	0		0	0	0	0	0	0		
250072-6	SS05	09/09/2020	Normal																							
250072-23	DUP 3		Field_D																							
RPD																										

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Duplicate Table

				Halogenated Hydrocarbons				Halogenated Phenols							Inorganics										
				1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,6-dichlorophenol	2-chlorophenol	Pentachlorophenol	pH 1:5 soil:water1:5 soil:water	Ammonia	Kjeldahl Nitrogen Total	Moisture	Nitrate (as NO3-)	Nitrite (as NO2-)	Nitrogen (Total Oxidised)	Nitrogen (Organic)	Nitrogen (Total)	Phosphate (as P)	Phosphorus
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	1	1	1	0.2	0.2	0.2	0.2	0.2	0.2	5		0.5	10	0.1	0.1	0.1	0.1	10	10	0.5	10
Sample Code	**Field ID**	**Date**	**Sample Type**																						
249261-21	SS08	25/08/2020	Normal	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5	8.4	3	140	9.4	<0.1	<0.1	<0.1	140	140	<0.5	76
249261-30	DUP1		Field_D	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5	8.4	3.2	170	9.2	<0.1	<0.1	<0.1	170	170	<0.5	92
RPD				0	0	0	0	0	0	0	0	0	0	0	0	6	19	2	0	0	0	19	19	0	19
249261-22	SS08	25/08/2020	Normal															21							
249261-31	DUP1		Field_D															22							
RPD																		5							
249459-8	SS13-1	31/08/2020	Normal	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5	8.1	2.9	79	21	<0.1	<0.1	<0.1	76	79	<0.5	94
249459-40	DUP 2		Field_D	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5	8.2	4	92	20	<0.1	<0.1	0.11	88	92	<0.5	90
RPD				0	0	0	0	0	0	0	0	0	0	0	1	32	15	5	0	0	10	15	15	0	4
249459-9	SS13-1	31/08/2020	Normal															22							
249459-41	DUP 2		Field_D															20							
RPD																		10							
250072-5	SS05	09/09/2020	Normal	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5	7.7	3	88	20	<0.1	<0.1	<0.1	85	88	<0.5	120
250072-22	DUP 3		Field_D	<1	<1	<1	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5	8	3	160	19	<0.1	<0.1	<0.1	150	160	<0.5	78
RPD				0	0	0	0	0	0	0	0	0	0	0	4	0	**58**	5	0	0	0	**55**	**58**	0	42
250072-6	SS05	09/09/2020	Normal															35							
250072-23	DUP 3		Field_D															19							
RPD																		**59**							

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Field Blanks Table

			Metals															
			Aluminium	Antimony	Arsenic	Cadmium	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Vanadium	Zinc
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.01	0.001	0.001	0.0001	0.001	0.001	0.001	0.01	0.001	0.005	0.00005	0.001	0.001	0.001	0.001	0.001
Lab Report Number	**Field ID**	**Date**																
249261	EB1	25/08/2020	**7**	<0.001	<0.001	<0.0001	**0.005**	<0.001	**0.002**	**0.02**	<0.001	**0.007**	<0.00005	<0.001	<0.001	<0.001	<0.001	**0.038**
249261	TB	25/08/2020																
249438	TB	28/08/2020																
249459	EB2	31/08/2020	<0.01	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	**0.01**	<0.001	<0.005	<0.00005	<0.001	<0.001	<0.001	<0.001	<0.001
249459	TB	31/08/2020																
249740	EB3	09/05/2020	**0.07**	<0.001	<0.001	<0.0001	**0.002**	<0.001	**0.001**	**0.07**	**0.002**	<0.005	<0.00005	<0.001	<0.001	<0.001	<0.001	**0.005**
249740	TB	09/05/2020																
250072	TB	09/09/2020																

Field Blanks Table

			TPH										BTEX					PAH	Solvents
			C6-C10	C6-C10 less BTEX (F1)	C10-C16	F2-NAPHTHALENE	C16-C34	C34-C40	C6 - C9	C10 - C14	C15 - C28	C29-C36	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Naphthalene	MTBE
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL			0.01	0.01	0.05	0.05	0.1	0.1	10	50	100	100	1	1	1	2	1	1	0.001
Lab Report Number	**Field ID**	**Date**																	
249261	EB1	25/08/2020	<0.01	<0.01	**0.059**	**0.059**	<0.1	<0.1	<10	<50	<100	<100	<1	<1	<1	<2	<1	<1	<0.001
249261	TB	25/08/2020	<0.01	<0.01					<10				<1	<1	<1	<2	<1	<1	<0.001
249438	TB	28/08/2020	<0.01	<0.01					<10				<1	<1	<1	<2	<1	<1	<0.001
249459	EB2	31/08/2020	<0.01	<0.01	<0.05	<0.05	<0.1	<0.1		<50	<100	<100	<1	<1	<1	<2	<1	<1	<0.001
249459	TB	31/08/2020	<0.01	<0.01									<1	<1	<1	<2	<1	<1	<0.001
249740	EB3	09/05/2020																	
249740	TB	09/05/2020	<0.01	<0.01					<10				<1	<1	<1	<2	<1	<1	<0.001
250072	TB	09/09/2020	<0.01	<0.01					<10				<1	<1	<1	<2	<1	<1	<0.001

Appendix E

Laboratory Certificates

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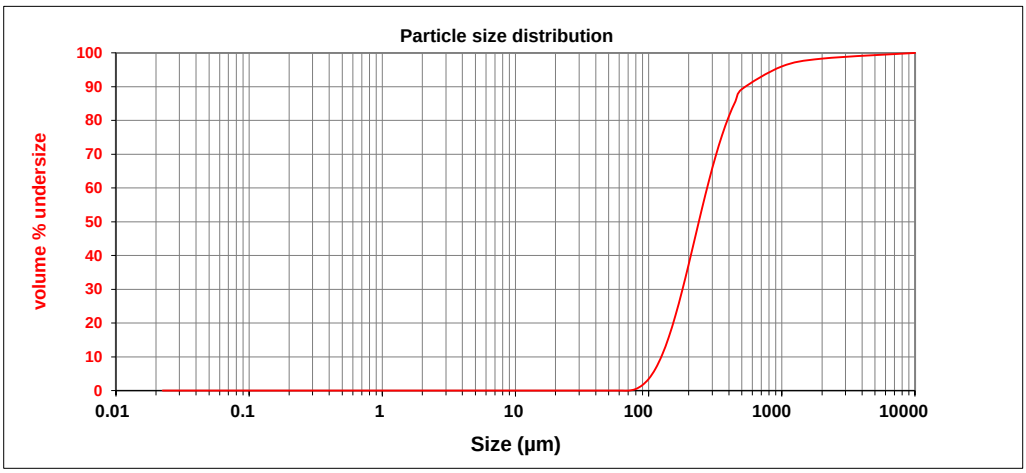
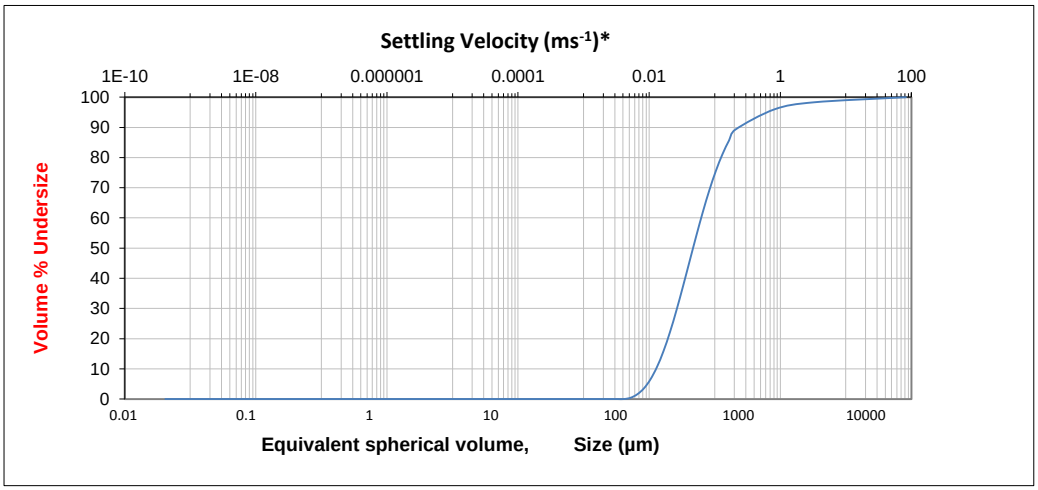
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	8/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	25/09/2020
Client ID:	249740-4	**Date reported:**	25/09/2020
Batch No :	20_1397		
Lab ID No :	20_1397_01		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	3 min sonication		

Span:	1.81	**Vol. Weighted mean D[4,3]:**	369.31 µm	**d(0.1)**	124.24 µm
		Surface weighted mean D[3,2]	216.87 µm	**d(0.5)**	238.32 µm
Volume % under 75um:	0.20%			**d(0.9)**	555.31 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.00	7.096	0.00	50.238	0.00	355.66	75.63
0.022	0.00	0.159	0.00	1.125	0.00	7.962	0.00	56.368	0.00	399.05	81.13
0.025	0.00	0.178	0.00	1.262	0.00	8.934	0.00	63.246	0.00	447.74	85.65
0.028	0.00	0.200	0.00	1.416	0.00	10.024	0.00	70.963	0.00	500.00	89.25
0.032	0.00	0.224	0.00	1.589	0.00	11.247	0.00	79.621	0.43	1000.00	96.01
0.036	0.00	0.252	0.00	1.783	0.00	12.619	0.00	89.337	1.57	2000.00	98.31
0.040	0.00	0.283	0.00	2.000	0.00	14.159	0.00	100.237	3.50	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	0.00	15.887	0.00	112.468	6.47		
0.050	0.00	0.356	0.00	2.518	0.00	17.825	0.00	126.191	10.59		
0.056	0.00	0.399	0.00	2.825	0.00	20.000	0.00	141.589	15.87		
0.063	0.00	0.448	0.00	3.170	0.00	22.440	0.00	158.866	22.26		
0.071	0.00	0.502	0.00	3.557	0.00	25.179	0.00	178.250	29.56		
0.080	0.00	0.564	0.00	3.991	0.00	28.251	0.00	200.000	37.53		
0.089	0.00	0.632	0.00	4.477	0.00	31.698	0.00	224.404	45.81		
0.100	0.00	0.710	0.00	5.024	0.00	35.566	0.00	251.785	54.06		
0.112	0.00	0.796	0.00	5.637	0.00	39.905	0.00	282.508	61.95		
0.126	0.00	0.893	0.00	6.325	0.00	44.774	0.00	316.979	69.21		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Harrison Pitts, B.Sc.(Archaeology)
Reported:	Harrison Pitts, B.Sc.(Archaeology)
Approved:	Ian Davies, B.Sc.(Chemistry)

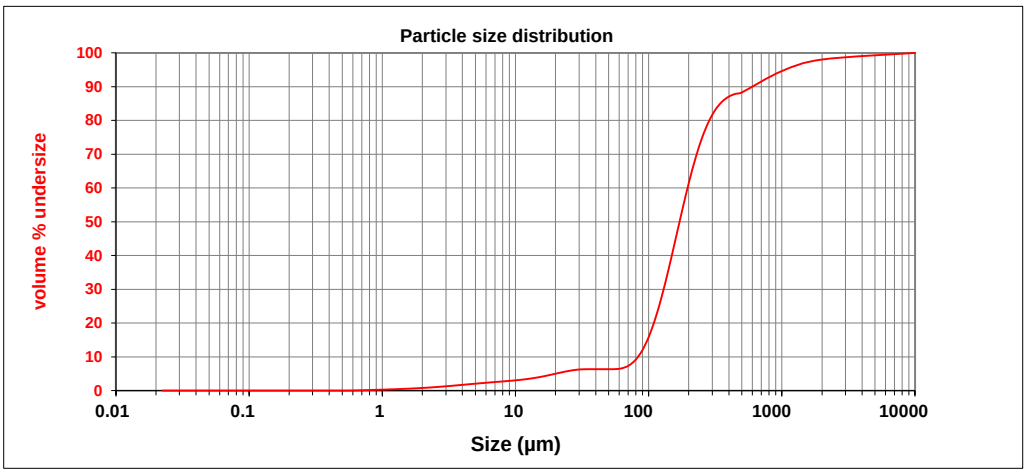
microanalysis australia

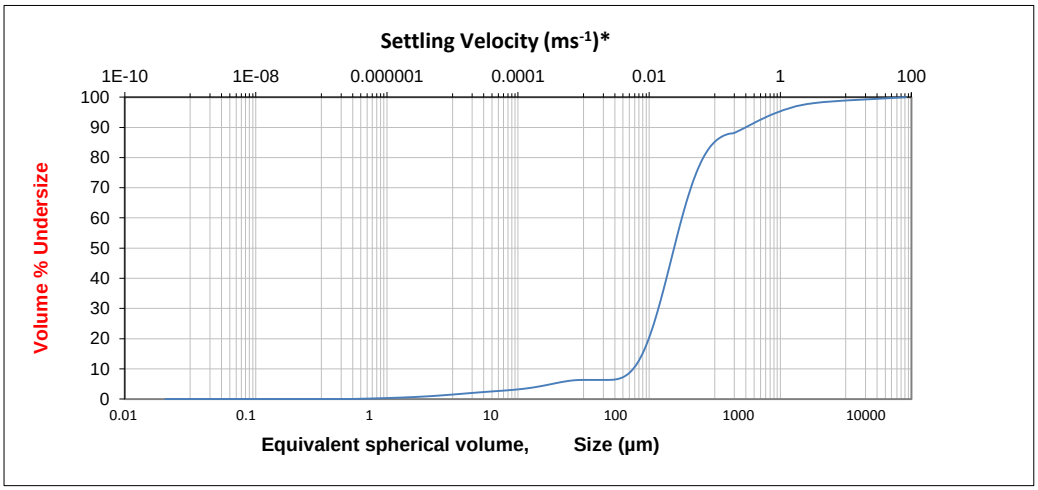
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	8/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	25/09/2020
Client ID:	249740-16	**Date reported:**	25/09/2020
Batch No :	20_1397		
Lab ID No :	20_1397_04		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	6 min sonication		

Span:	3.23	**Vol. Weighted mean D[4,3]:**	328.93 µm	**d(0.1)**	82.84 µm
		Surface weighted mean D[3,2]	50.24 µm	**d(0.5)**	170.76 µm
Volume % under 75um:	8.20%			**d(0.9)**	634.10 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.27	7.096	2.54	50.238	6.33	355.66	85.57
0.022	0.00	0.159	0.00	1.125	0.34	7.962	2.69	56.368	6.36	399.05	87.05
0.025	0.00	0.178	0.00	1.262	0.41	8.934	2.85	63.246	6.62	447.74	87.88
0.028	0.00	0.200	0.00	1.416	0.48	10.024	3.03	70.963	7.43	500.00	88.30
0.032	0.00	0.224	0.00	1.589	0.57	11.247	3.24	79.621	9.08	1000.00	94.63
0.036	0.00	0.252	0.00	1.783	0.66	12.619	3.49	89.337	11.86	2000.00	98.04
0.040	0.00	0.283	0.00	2.000	0.77	14.159	3.79	100.237	15.97	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	0.89	15.887	4.15	112.468	21.49		
0.050	0.00	0.356	0.00	2.518	1.03	17.825	4.56	126.191	28.34		
0.056	0.00	0.399	0.00	2.825	1.18	20.000	4.99	141.589	36.22		
0.063	0.00	0.448	0.00	3.170	1.34	22.440	5.43	158.866	44.72		
0.071	0.00	0.502	0.00	3.557	1.51	25.179	5.82	178.250	53.32		
0.080	0.00	0.564	0.00	3.991	1.69	28.251	6.13	200.000	61.49		
0.089	0.00	0.632	0.04	4.477	1.87	31.698	6.29	224.404	68.78		
0.100	0.00	0.710	0.09	5.024	2.05	35.566	6.33	251.785	74.90		
0.112	0.00	0.796	0.15	5.637	2.22	39.905	6.33	282.508	79.69		
0.126	0.00	0.893	0.21	6.325	2.38	44.774	6.33	316.979	83.20		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Harrison Pitts, B.Sc.(Archaeology)
Reported:	Harrison Pitts, B.Sc.(Archaeology)
Approved:	Ian Davies, B.Sc.(Chemistry)

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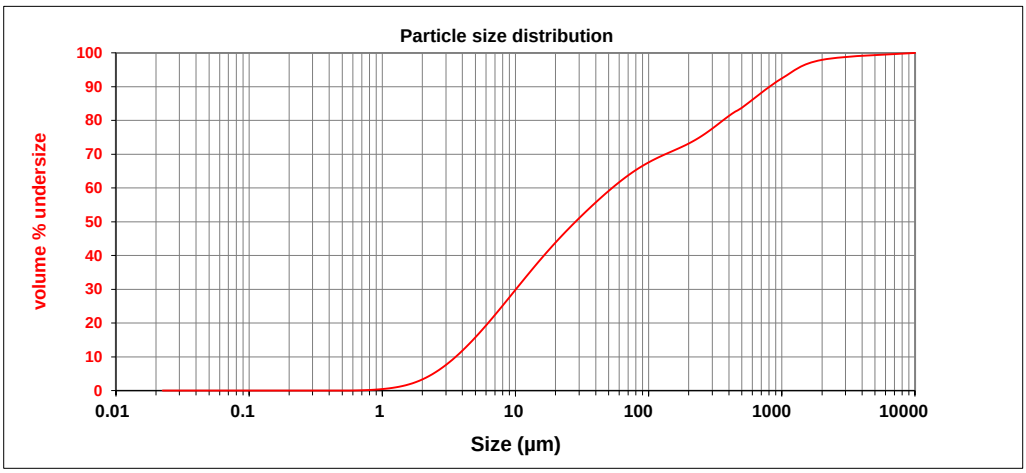
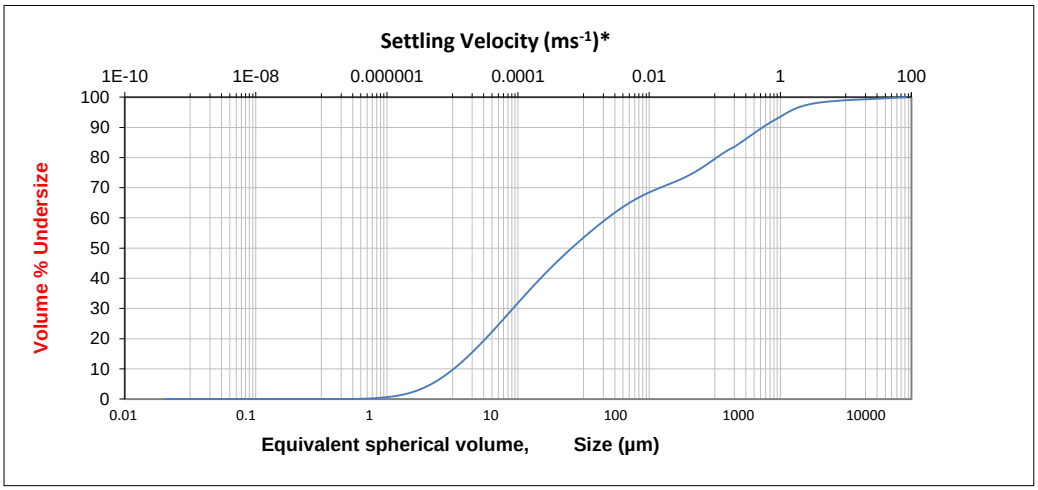
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	8/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	25/09/2020
Client ID:	249740-25	**Date reported:**	25/09/2020
Batch No :	20_1397		
Lab ID No :	20_1397_06		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	5 min sonication		

Span:	30.30	**Vol. Weighted mean D[4,3]:**	288.02 µm	**d(0.1)**	3.56 µm
		Surface weighted mean D[3,2]	9.97 µm	**d(0.5)**	28.22 µm
Volume % under 75um:	64.52%			**d(0.9)**	858.59 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.45	7.096	22.65	50.238	59.18	355.66	79.82
0.022	0.00	0.159	0.00	1.125	0.66	7.962	25.04	56.368	60.84	399.05	81.31
0.025	0.00	0.178	0.00	1.262	0.95	8.934	27.46	63.246	62.41	447.74	82.65
0.028	0.00	0.200	0.00	1.416	1.34	10.024	29.90	70.963	63.88	500.00	83.74
0.032	0.00	0.224	0.00	1.589	1.85	11.247	32.33	79.621	65.24	1000.00	92.47
0.036	0.00	0.252	0.00	1.783	2.50	12.619	34.74	89.337	66.49	2000.00	97.95
0.040	0.00	0.283	0.00	2.000	3.31	14.159	37.11	100.237	67.62	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	4.30	15.887	39.42	112.468	68.64		
0.050	0.00	0.356	0.00	2.518	5.46	17.825	41.68	126.191	69.57		
0.056	0.00	0.399	0.00	2.825	6.81	20.000	43.86	141.589	70.45		
0.063	0.00	0.448	0.00	3.170	8.32	22.440	45.98	158.866	71.32		
0.071	0.00	0.502	0.00	3.557	9.99	25.179	48.03	178.250	72.21		
0.080	0.00	0.564	0.00	3.991	11.82	28.251	50.02	200.000	73.18		
0.089	0.00	0.632	0.03	4.477	13.78	31.698	51.96	224.404	74.26		
0.100	0.00	0.710	0.08	5.024	15.86	35.566	53.84	251.785	75.48		
0.112	0.00	0.796	0.17	5.637	18.04	39.905	55.68	282.508	76.83		
0.126	0.00	0.893	0.29	6.325	20.31	44.774	57.46	316.979	78.30		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Harrison Pitts, B.Sc.(Archaeology)
Reported:	Harrison Pitts, B.Sc.(Archaeology)
Approved:	Ian Davies, B.Sc.(Chemistry)

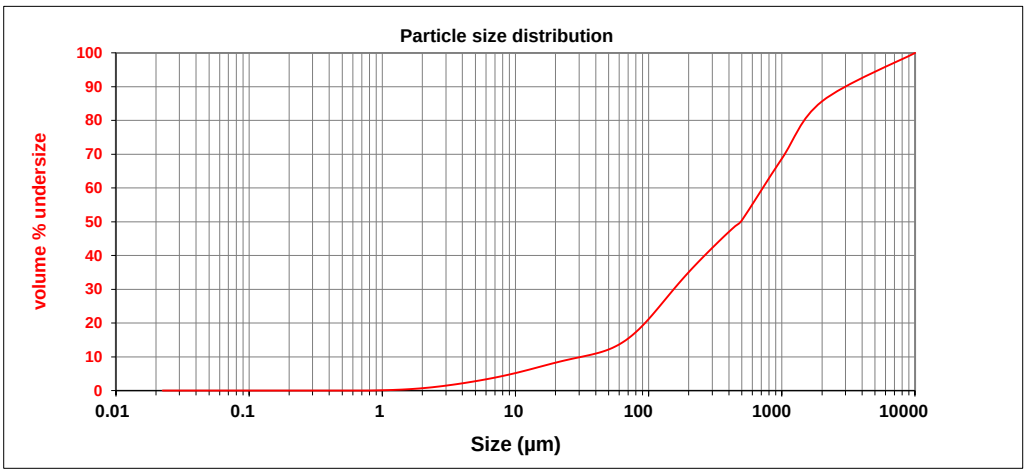
microanalysis australia

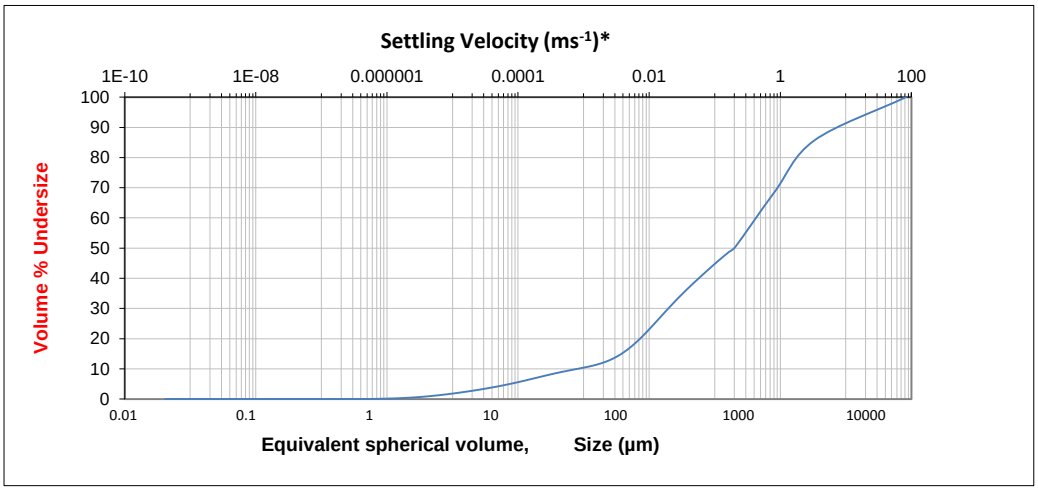
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	8/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	25/09/2020
Client ID:	249740-8	**Date reported:**	25/09/2020
Batch No :	20_1397		
Lab ID No :	20_1397_02		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	20 min sonication		

Span:	6.60	**Vol. Weighted mean D[4,3]:**	1088.71 µm	**d(0.1)**	31.29 µm
		Surface weighted mean D[3,2]	46.28 µm	**d(0.5)**	487.61 µm
Volume % under 75um:	16.35%			**d(0.9)**	3250.00 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.09	7.096	3.88	50.238	12.20	355.66	45.10
0.022	0.00	0.159	0.00	1.125	0.15	7.962	4.30	56.368	13.09	399.05	46.97
0.025	0.00	0.178	0.00	1.262	0.22	8.934	4.73	63.246	14.20	447.74	48.75
0.028	0.00	0.200	0.00	1.416	0.30	10.024	5.19	70.963	15.58	500.00	50.39
0.032	0.00	0.224	0.00	1.589	0.41	11.247	5.68	79.621	17.22	1000.00	68.72
0.036	0.00	0.252	0.00	1.783	0.54	12.619	6.19	89.337	19.12	2000.00	85.66
0.040	0.00	0.283	0.00	2.000	0.70	14.159	6.71	100.237	21.24	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	0.88	15.887	7.24	112.468	23.51		
0.050	0.00	0.356	0.00	2.518	1.09	17.825	7.76	126.191	25.87		
0.056	0.00	0.399	0.00	2.825	1.33	20.000	8.27	141.589	28.26		
0.063	0.00	0.448	0.00	3.170	1.58	22.440	8.75	158.866	30.62		
0.071	0.00	0.502	0.00	3.557	1.86	25.179	9.20	178.250	32.90		
0.080	0.00	0.564	0.00	3.991	2.15	28.251	9.63	200.000	35.09		
0.089	0.00	0.632	0.00	4.477	2.46	31.698	10.05	224.404	37.20		
0.100	0.00	0.710	0.00	5.024	2.79	35.566	10.48	251.785	39.24		
0.112	0.00	0.796	0.01	5.637	3.13	39.905	10.95	282.508	41.23		
0.126	0.00	0.893	0.05	6.325	3.50	44.774	11.50	316.979	43.18		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Harrison Pitts, B.Sc.(Archaeology)
Reported:	Harrison Pitts, B.Sc.(Archaeology)
Approved:	Ian Davies, B.Sc.(Chemistry)

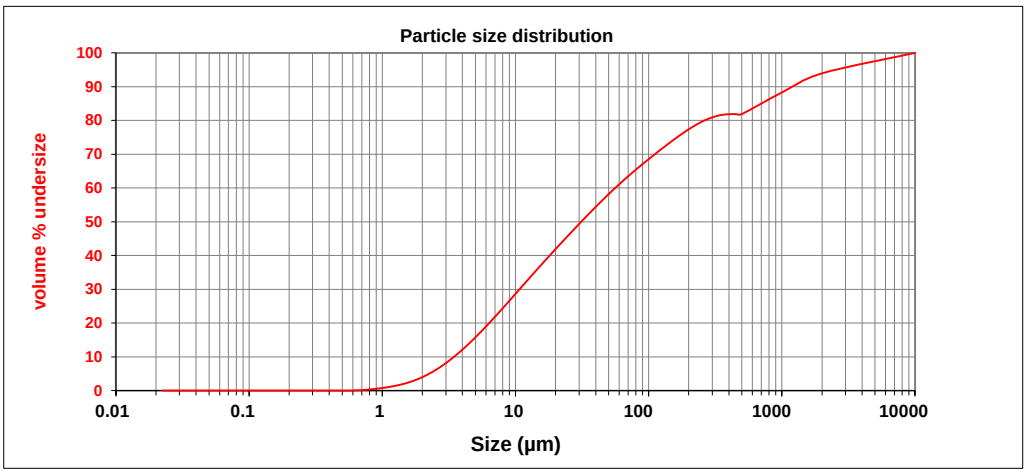
microanalysis australia

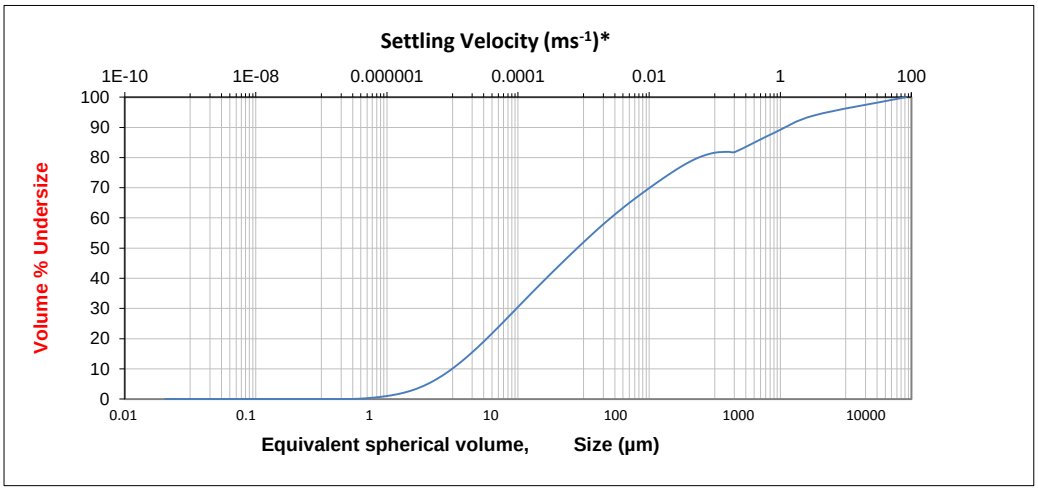
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	8/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	25/09/2020
Client ID:	249740-12	**Date reported:**	25/09/2020
Batch No :	20_1397		
Lab ID No :	20_1397_03		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	4 min sonication		

Span:	41.62	**Vol. Weighted mean D[4,3]:**	436.22 µm	**d(0.1)**	3.46 µm
		Surface weighted mean D[3,2]	9.66 µm	**d(0.5)**	31.19 µm
Volume % under 75um:	64.43%			**d(0.9)**	1301.77 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.76	7.096	22.07	50.238	58.24	355.66	81.67
0.022	0.00	0.159	0.00	1.125	1.06	7.962	24.25	56.368	60.10	399.05	81.84
0.025	0.00	0.178	0.00	1.262	1.43	8.934	26.46	63.246	61.90	447.74	81.89
0.028	0.00	0.200	0.00	1.416	1.89	10.024	28.69	70.963	63.65	500.00	81.89
0.032	0.00	0.224	0.00	1.589	2.45	11.247	30.93	79.621	65.34	1000.00	88.29
0.036	0.00	0.252	0.00	1.783	3.14	12.619	33.16	89.337	66.98	2000.00	93.95
0.040	0.00	0.283	0.00	2.000	3.98	14.159	35.38	100.237	68.58	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	4.96	15.887	37.58	112.468	70.15		
0.050	0.00	0.356	0.00	2.518	6.10	17.825	39.75	126.191	71.69		
0.056	0.00	0.399	0.00	2.825	7.39	20.000	41.90	141.589	73.20		
0.063	0.00	0.448	0.00	3.170	8.83	22.440	44.04	158.866	74.66		
0.071	0.00	0.502	0.00	3.557	10.40	25.179	46.15	178.250	76.07		
0.080	0.00	0.564	0.00	3.991	12.10	28.251	48.24	200.000	77.40		
0.089	0.00	0.632	0.06	4.477	13.92	31.698	50.30	224.404	78.60		
0.100	0.00	0.710	0.15	5.024	15.84	35.566	52.34	251.785	79.66		
0.112	0.00	0.796	0.31	5.637	17.85	39.905	54.35	282.508	80.53		
0.126	0.00	0.893	0.51	6.325	19.93	44.774	56.32	316.979	81.20		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Harrison Pitts, B.Sc.(Archaeology)
Reported:	Harrison Pitts, B.Sc.(Archaeology)
Approved:	Ian Davies, B.Sc.(Chemistry)

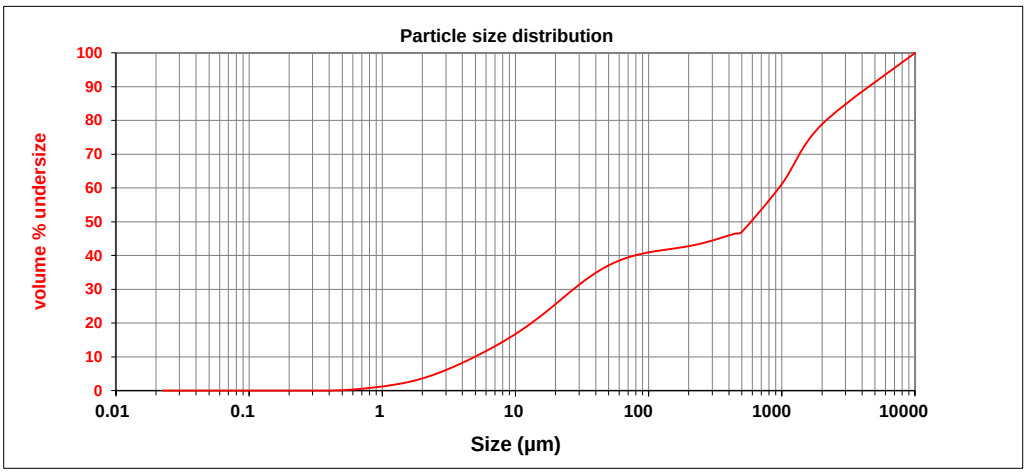
microanalysis australia

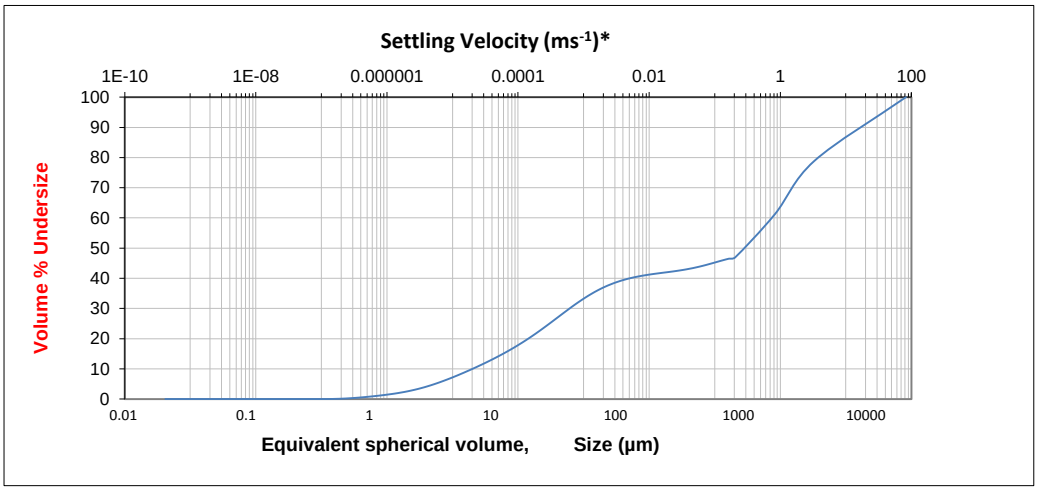
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	8/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	25/09/2020
Client ID:	249740-21	**Date reported:**	25/09/2020
Batch No :	20_1397		
Lab ID No :	20_1397_05		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	2 min sonication		

Span:	7.83	**Vol. Weighted mean D[4,3]:**	1320.74 µm	**d(0.1)**	4.95 µm
		Surface weighted mean D[3,2]	13.27 µm	**d(0.5)**	606.37 µm
Volume % under 75um:	39.77%			**d(0.9)**	4750.00 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	1.22	7.096	13.25	50.238	37.11	355.66	45.33
0.022	0.00	0.159	0.00	1.125	1.50	7.962	14.37	56.368	38.04	399.05	45.94
0.025	0.00	0.178	0.00	1.262	1.80	8.934	15.55	63.246	38.84	447.74	46.50
0.028	0.00	0.200	0.00	1.416	2.16	10.024	16.79	70.963	39.51	500.00	46.97
0.032	0.00	0.224	0.00	1.589	2.57	11.247	18.09	79.621	40.07	1000.00	61.20
0.036	0.00	0.252	0.00	1.783	3.05	12.619	19.47	89.337	40.54	2000.00	78.86
0.040	0.00	0.283	0.00	2.000	3.59	14.159	20.92	100.237	40.94	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	4.21	15.887	22.43	112.468	41.28		
0.050	0.00	0.356	0.00	2.518	4.90	17.825	24.01	126.191	41.58		
0.056	0.00	0.399	0.01	2.825	5.66	20.000	25.63	141.589	41.86		
0.063	0.00	0.448	0.05	3.170	6.47	22.440	27.27	158.866	42.14		
0.071	0.00	0.502	0.12	3.557	7.32	25.179	28.91	178.250	42.44		
0.080	0.00	0.564	0.23	3.991	8.22	28.251	30.51	200.000	42.78		
0.089	0.00	0.632	0.38	4.477	9.16	31.698	32.05	224.404	43.17		
0.100	0.00	0.710	0.55	5.024	10.13	35.566	33.50	251.785	43.62		
0.112	0.00	0.796	0.75	5.637	11.13	39.905	34.84	282.508	44.14		
0.126	0.00	0.893	0.98	6.325	12.17	44.774	36.04	316.979	44.71		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Harrison Pitts, B.Sc.(Archaeology)
Reported:	Harrison Pitts, B.Sc.(Archaeology)
Approved:	Ian Davies, B.Sc.(Chemistry)

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
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16-18 Hayden Court Myaree WA 6154
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lab@mpl.com.au
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CERTIFICATE OF ANALYSIS 249261

Client Details

Client	Department for Environment and Water
Attention	Joe Pedicini
Address	81-95 Waymouth Street, ADELAIDE, SA, 5001

Sample Details

Your Reference	**Port Stanvac Sediment Sampling- 20085.02**
Number of Samples	31 Sediment and 2 Water
Date samples received	28/08/2020
Date completed instructions received	28/08/2020

Analysis Details

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

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

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

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

Report Details

Date results requested by	14/09/2020
Date of Issue	29/09/2020

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

Results Approved By
Heram Halim, Operations Manager
Michael Kubiak, Laboratory Manager
Travis Carey, Organics - Team Leader

Authorised By

Michael Kubiak, Laboratory Manager

Metals in sediment						
Our Reference		249261-1	249261-5	249261-9	249261-13	249261-17
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date digested	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Aluminium	mg/kg	870	960	1,800	1,300	440
Antimony	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic	mg/kg	3.3	5.2	20	11	2.2
Cadmium	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	mg/kg	3.4	3.8	10	8.0	2.4
Cobalt	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5
Copper	mg/kg	<0.5	<0.5	0.9	0.7	<0.5
Iron	mg/kg	2,200	3,000	8,400	5,700	1,300
Lead	mg/kg	1.7	1.7	2.7	3.3	1
Manganese	mg/kg	28	38	41	32	13
Mercury	mg/kg	<0.01	0.01	0.05	0.01	<0.01
Nickel	mg/kg	0.8	1.2	1.5	1.1	<0.5
Selenium	mg/kg	<0.1	<0.1	0.2	0.1	<0.1
Silver	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	mg/kg	5.3	7.7	30	19	4.8
Zinc	mg/kg	2.4	3.1	4.6	4.4	2.0

Metals in sediment					
Our Reference		249261-21	249261-25	249261-26	249261-30
Your Reference	UNITS	SS08	SS09-1	SS09-2	DUP1
Depth		0.23-0.33	0.15-0.2	1.4-1.47	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date digested	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Aluminium	mg/kg	780	1,500	1,300	850
Antimony	mg/kg	<0.5	0.5	1.7	<0.5
Arsenic	mg/kg	4.1	24	16	5.4
Cadmium	mg/kg	<0.1	<0.1	<0.1	<0.1
Chromium	mg/kg	2.9	8.7	2.1	3.0
Cobalt	mg/kg	<0.5	<0.5	1.2	<0.5
Copper	mg/kg	<0.5	0.6	2.4	0.5
Iron	mg/kg	1,900	7,500	7,100	2,200
Lead	mg/kg	0.9	2.0	0.9	1
Manganese	mg/kg	19	44	36	23
Mercury	mg/kg	<0.01	0.03	0.04	<0.01
Nickel	mg/kg	1	1.4	3.4	1.3
Selenium	mg/kg	0.1	0.2	0.3	0.2
Silver	mg/kg	<0.1	<0.1	<0.1	<0.1
Vanadium	mg/kg	6.0	30	37	8.9
Zinc	mg/kg	1.8	3.0	2.3	2.0

TRH in Sediment (C6-C9) + BTEX						
Our Reference		249261-1	249261-5	249261-9	249261-13	249261-17
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
m+p-xylene	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
o-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Xylenes (total)	mg/kg	<0.6	<0.6	<0.6	<0.6	<0.6
Surrogate aaa-Trifluorotoluene	%	85	84	86	84	86

TRH in Sediment (C6-C9) + BTEX					
Our Reference		249261-21	249261-25	249261-26	249261-30
Your Reference	UNITS	SS08	SS09-1	SS09-2	DUP1
Depth		0.23-0.33	0.15-0.2	1.4-1.47	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	mg/kg	<0.2	<0.2	<0.2	<0.2
m+p-xylene	mg/kg	<0.4	<0.4	<0.4	<0.4
o-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2
Xylenes (total)	mg/kg	<0.6	<0.6	<0.6	<0.6
Surrogate aaa-Trifluorotoluene	%	81	88	84	85

sTRH in Sediment (C10-C36)						
Our Reference		249261-1	249261-5	249261-9	249261-13	249261-17
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	04/09/2020	04/09/2020	04/09/2020	04/09/2020	04/09/2020
TRH C_{10} - C_{14}	mg/kg	<25	<25	<25	<25	<25
TRH C_{15} - C_{28}	mg/kg	<25	<25	<25	<25	<25
TRH C_{29} - C_{36}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (C10-C36)	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} - C_{16}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{16} - C_{34}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{34} - C_{40}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (>C10-C40)	mg/kg	<100	<100	<100	<100	<100

sTRH in Sediment (C10-C36)					
Our Reference		249261-21	249261-25	249261-26	249261-30
Your Reference	UNITS	SS08	SS09-1	SS09-2	DUP1
Depth		0.23-0.33	0.15-0.2	1.4-1.47	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	04/09/2020	04/09/2020	04/09/2020	04/09/2020
TRH C_{10} - C_{14}	mg/kg	<25	<25	<25	<25
TRH C_{15} - C_{28}	mg/kg	<25	<25	<25	<25
TRH C_{29} - C_{36}	mg/kg	<25	<25	<25	<25
Summed total TRH's (C10-C36)	mg/kg	<100	<100	<100	<100
TRH >C_{10} - C_{16}	mg/kg	<25	<25	<25	<25
TRH >C_{16} - C_{34}	mg/kg	<25	<25	<25	<25
TRH >C_{34} - C_{40}	mg/kg	<25	<25	<25	<25
Summed total TRH's (>C10-C40)	mg/kg	<100	<100	<100	<100

VHC's in soil						
Our Reference		249261-1	249261-5	249261-9	249261-13	249261-17
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
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
Carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
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
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
Bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		249261-1	249261-5	249261-9	249261-13	249261-17
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Bromobenzene	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-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	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	101	103	99
Surrogate aaa-Trifluorotoluene	%	89	88	91	88	91
Surrogate Toluene-d_8	%	98	98	98	98	98
Surrogate 4-Bromofluorobenz	%	95	95	96	95	94

VHC's in soil					
Our Reference		249261-21	249261-25	249261-26	249261-30
Your Reference	UNITS	SS08	SS09-1	SS09-2	DUP1
Depth		0.23-0.33	0.15-0.2	1.4-1.47	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Dichlorodifluoromethane	mg/kg	<1	<1	<1	<1
Chloromethane	mg/kg	<1	<1	<1	<1
Vinyl Chloride	mg/kg	<1	<1	<1	<1
Bromomethane	mg/kg	<1	<1	<1	<1
Chloroethane	mg/kg	<1	<1	<1	<1
Trichlorofluoromethane	mg/kg	<1	<1	<1	<1
1,1-Dichloroethene	mg/kg	<1	<1	<1	<1
trans-1,2-dichloroethene	mg/kg	<1	<1	<1	<1
1,1-dichloroethane	mg/kg	<1	<1	<1	<1
cis-1,2-dichloroethene	mg/kg	<1	<1	<1	<1
Bromochloromethane	mg/kg	<1	<1	<1	<1
Chloroform	mg/kg	<1	<1	<1	<1
2,2-dichloropropane	mg/kg	<1	<1	<1	<1
1,2-dichloroethane	mg/kg	<1	<1	<1	<1
1,1,1-trichloroethane	mg/kg	<1	<1	<1	<1
1,1-dichloropropene	mg/kg	<1	<1	<1	<1
Carbon tetrachloride	mg/kg	<1	<1	<1	<1
Dibromomethane	mg/kg	<1	<1	<1	<1
1,2-dichloropropane	mg/kg	<1	<1	<1	<1
Trichloroethene	mg/kg	<1	<1	<1	<1
Bromodichloromethane	mg/kg	<1	<1	<1	<1
trans-1,3-dichloropropene	mg/kg	<1	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	<1	<1	<1	<1
1,1,2-trichloroethane	mg/kg	<1	<1	<1	<1
1,3-dichloropropane	mg/kg	<1	<1	<1	<1
Dibromochloromethane	mg/kg	<1	<1	<1	<1
1,2-dibromoethane	mg/kg	<1	<1	<1	<1
Tetrachloroethene	mg/kg	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	mg/kg	<1	<1	<1	<1
Chlorobenzene	mg/kg	<1	<1	<1	<1
Bromoform	mg/kg	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1

VHC's in soil					
Our Reference		249261-21	249261-25	249261-26	249261-30
Your Reference	UNITS	SS08	SS09-1	SS09-2	DUP1
Depth		0.23-0.33	0.15-0.2	1.4-1.47	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Bromobenzene	mg/kg	<1	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1
1,2-dichlorobenzene	mg/kg	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	mg/kg	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	<1	<1	<1	<1
Hexachlorobutadiene	mg/kg	<1	<1	<1	<1
1,2,3-trichlorobenzene	mg/kg	<1	<1	<1	<1
Surrogate Dibromofluorometha	%	103	103	102	104
Surrogate aaa-Trifluorotoluene	%	85	93	89	89
Surrogate Toluene-d_8	%	99	99	99	99
Surrogate 4-Bromofluorobenz	%	95	95	95	96

PAHs in Sediment (NAGD)						
Our Reference		249261-1	249261-5	249261-9	249261-13	249261-17
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	06/09/2020	06/09/2020	06/09/2020	06/09/2020	06/09/2020
Naphthalene	µg/kg	<5	<5	<5	<5	<5
2-Methylnaphthalene	µg/kg	<5	<5	<5	<5	<5
Acenaphthylene	µg/kg	<5	<5	<5	<5	<5
Acenaphthene	µg/kg	<5	<5	<5	<5	<5
Fluorene	µg/kg	<5	<5	<5	<5	<5
Phenanthrene	µg/kg	<5	<5	<5	<5	<5
Anthracene	µg/kg	<5	<5	<5	<5	<5
Fluoranthene	µg/kg	<5	<5	<5	<5	<5
Pyrene	µg/kg	<5	<5	<5	<5	<5
Benzo(a)anthracene	µg/kg	<5	<5	<5	<5	<5
Chrysene	µg/kg	<5	<5	<5	<5	<5
Benzo(b,j+k)fluoranthene	µg/kg	<10	<10	<10	<10	<10
Benzo(e)pyrene	µg/kg	<5	<5	<5	<5	<5
Benzo(a)pyrene	µg/kg	<5	<5	<5	<5	<5
Perylene	µg/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	µg/kg	<5	<5	<5	<5	<5
Dibenzo(a,h)anthracene	µg/kg	<5	<5	<5	<5	<5
Benzo(g,h,i)perylene	µg/kg	<5	<5	<5	<5	<5
Coronene	µg/kg	<5	<5	<5	<5	<5
Surrogate p-Terphenyl-D_{14}	%	82	76	76	80	82

PAHs in Sediment (NAGD)					
Our Reference		249261-21	249261-25	249261-26	249261-30
Your Reference	UNITS	SS08	SS09-1	SS09-2	DUP1
Depth		0.23-0.33	0.15-0.2	1.4-1.47	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	06/09/2020	06/09/2020	06/09/2020	06/09/2020
Naphthalene	µg/kg	<5	<5	<5	<5
2-Methylnaphthalene	µg/kg	<5	<5	<5	<5
Acenaphthylene	µg/kg	<5	<5	<5	<5
Acenaphthene	µg/kg	<5	<5	<5	<5
Fluorene	µg/kg	<5	<5	<5	<5
Phenanthrene	µg/kg	<5	<5	<5	<5
Anthracene	µg/kg	<5	<5	<5	<5
Fluoranthene	µg/kg	<5	<5	<5	<5
Pyrene	µg/kg	<5	<5	<5	<5
Benzo(a)anthracene	µg/kg	<5	<5	<5	<5
Chrysene	µg/kg	<5	<5	<5	<5
Benzo(b,j+k)fluoranthene	µg/kg	<10	<10	<10	<10
Benzo(e)pyrene	µg/kg	<5	<5	<5	<5
Benzo(a)pyrene	µg/kg	<5	<5	<5	<5
Perylene	µg/kg	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	µg/kg	<5	<5	<5	<5
Dibenzo(a,h)anthracene	µg/kg	<5	<5	<5	<5
Benzo(g,h,i)perylene	µg/kg	<5	<5	<5	<5
Coronene	µg/kg	<5	<5	<5	<5
Surrogate p-Terphenyl-D_{14}	%	79	78	102	83

Speciated Phenols in Soil						
Our Reference		249261-1	249261-5	249261-9	249261-13	249261-17
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	06/09/2020	06/09/2020	06/09/2020	06/09/2020	06/09/2020
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,6-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
Pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	76	71	64	70	77
Surrogate 2-fluorophenol	%	73	74	63	76	78

Speciated Phenols in Soil					
Our Reference		249261-21	249261-25	249261-26	249261-30
Your Reference	UNITS	SS08	SS09-1	SS09-2	DUP1
Depth		0.23-0.33	0.15-0.2	1.4-1.47	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	06/09/2020	06/09/2020	06/09/2020	06/09/2020
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2
2,6-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10
Pentachlorophenol	mg/kg	<5	<5	<5	<5
Surrogate Phenol-d_6	%	65	71	106	71
Surrogate 2-fluorophenol	%	63	69	96	76

SVCH's in Soil						
Our Reference		249261-1	249261-5	249261-9	249261-13	249261-17
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	06/09/2020	06/09/2020	06/09/2020	06/09/2020	06/09/2020
1,3-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	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
1,3,5-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,4-Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	<2	<2	<2	<2	<2
Hexachlorobutadiene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-D_{14}	%	82	76	76	80	82

SVCH's in Soil					
Our Reference		249261-21	249261-25	249261-26	249261-30
Your Reference	UNITS	SS08	SS09-1	SS09-2	DUP1
Depth		0.23-0.33	0.15-0.2	1.4-1.47	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	06/09/2020	06/09/2020	06/09/2020	06/09/2020
1,3-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5
1,3,5-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5
1,2,3,4-Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	<2	<2	<2	<2
Hexachlorobutadiene	mg/kg	<0.5	<0.5	<0.5	<0.5
Pentachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	mg/kg	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-D_{14}	%	79	78	102	83

Nutrients in Soil						
Our Reference		249261-1	249261-5	249261-9	249261-13	249261-17
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Total Nitrogen	mg/kg	87	98	160	150	27
Total Kjeldahl Nitrogen	mg/kg	87	98	160	150	27
NOx as N (1:5 soil:water)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrate-N	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite-N	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia as N (1:5 KCl extract)	mg/kg	4.4	5.0	3.3	3.3	3.5
Total Phosphorus	mg/kg	120	130	310	260	63
Organic N	mg/kg	83	93	150	150	23
Phosphate as P	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Nutrients in Soil					
Our Reference		249261-21	249261-25	249261-26	249261-30
Your Reference	UNITS	SS08	SS09-1	SS09-2	DUP1
Depth		0.23-0.33	0.15-0.2	1.4-1.47	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Total Nitrogen	mg/kg	140	140	69	170
Total Kjeldahl Nitrogen	mg/kg	140	140	69	170
NOx as N (1:5 soil:water)	mg/kg	<0.1	0.12	<0.1	<0.1
Nitrate-N	mg/kg	<0.1	0.10	<0.1	<0.1
Nitrite-N	mg/kg	<0.1	<0.1	<0.1	<0.1
Ammonia as N (1:5 KCl extract)	mg/kg	3.0	3.6	2.9	3.2
Total Phosphorus	mg/kg	76	320	110	92
Organic N	mg/kg	140	140	66	170
Phosphate as P	mg/kg	<0.5	<0.5	<0.5	<0.5

Miscellaneous Inorg - soil						
Our Reference		249261-1	249261-3	249261-5	249261-7	249261-9
Your Reference	UNITS	SS26	SS26	SS22	SS22	SS01
Depth		0.1-0.2	0.2-0.45	0.1-0.2	0.7-0.95	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	25/08/2020	25/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
pH	pH Units	8.2	[NA]	8.1	[NA]	8.3
Bulk Density*	g/cm3	[NA]	1.23	[NA]	1.74	[NA]

Miscellaneous Inorg - soil						
Our Reference		249261-11	249261-13	249261-15	249261-17	249261-19
Your Reference	UNITS	SS01	SS02	SS02	SS03	SS03
Depth		0.2-0.4	0.1-0.2	0.2-0.4	0.1-0.2	0.2-0.4
Date Sampled		26/08/2020	26/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
pH	pH Units	[NA]	8.4	[NA]	8.5	[NA]
Bulk Density*	g/cm3	1.15	[NA]	1.27	[NA]	0.81

Miscellaneous Inorg - soil						
Our Reference		249261-21	249261-23	249261-25	249261-26	249261-28
Your Reference	UNITS	SS08	SS08	SS09-1	SS09-2	SS09
Depth		0.23-0.33	1.1-1.3	0.15-0.2	1.4-1.47	0.8-1.2
Date Sampled		26/08/2020	26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
pH	pH Units	8.4	[NA]	8.5	8.5	[NA]
Bulk Density*	g/cm3	[NA]	1.40	[NA]	[NA]	1.44

Miscellaneous Inorg - soil		
Our Reference		249261-30
Your Reference	UNITS	DUP1
Depth		-
Date Sampled		25/08/2020
Type of sample		Sediment
Date prepared	-	03/09/2020
Date analysed	-	03/09/2020
pH	pH Units	8.4

PFAS in Soil Extended						
Our Reference		249261-2	249261-6	249261-10	249261-14	249261-18
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.2-0.3	0.2-0.3	0.2-0.3	0.2-0.3	0.2-0.3
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Date analysed	-	01/09/2020	01/09/2020	01/09/2020	31/08/2020	31/08/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ PFOS	%	98	100	101	98	100
Surrogate $^{13}C_2$ PFOA	%	106	103	100	101	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	105	98	98	94	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	95	95	93	91	86
Extracted ISTD $^{13}C_4$ *PFOS*	%	94	92	95	88	84

PFAS in Soil Extended						
Our Reference		249261-2	249261-6	249261-10	249261-14	249261-18
Your Reference	UNITS	SS26	SS22	SS01	SS02	SS03
Depth		0.2-0.3	0.2-0.3	0.2-0.3	0.2-0.3	0.2-0.3
Date Sampled		25/08/2020	25/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Extracted ISTD 13C4 PFBA	%	94	92	91	84	80
Extracted ISTD $^{13}C_3$ *PFPeA*	%	108	103	103	88	81
Extracted ISTD $^{13}C_2$ *PFHxA*	%	89	90	92	82	84
Extracted ISTD $^{13}C_4$ *PFHpA*	%	101	98	101	89	87
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	89	92	90	87
Extracted ISTD $^{13}C_5$ *PFNA*	%	90	89	89	92	84
Extracted ISTD $^{13}C_2$ *PFDA*	%	101	97	97	84	82
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	106	100	103	102	98
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	118	109	101	98	85
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	96	99	56	87	64
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	96	94	96	87	80
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	100	94	94	84	82
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	128	101	102	106	113
Extracted ISTD $^{13}C_8$ *FOSA*	%	104	98	100	84	81
Extracted ISTD d_3 *N MeFOSA*	%	87	90	86	62	57
Extracted ISTD d_5 *N EtFOSA*	%	80	89	81	57	53
Extracted ISTD d_7 *N MeFOSE*	%	96	104	92	88	83
Extracted ISTD d_9 *N EtFOSE*	%	92	101	90	90	82
Extracted ISTD d_3 *N MeFOSAA*	%	91	92	90	83	84
Extracted ISTD d_5 *N EtFOSAA*	%	124	107	109	90	88
Total Positive PFHxS & PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1

PFAS in Soil Extended				
Our Reference		249261-22	249261-27	249261-31
Your Reference	UNITS	SS08	SS09	DUP1
Depth		0.33-0.43	0.2-0.3	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment
Date prepared	-	31/08/2020	31/08/2020	31/08/2020
Date analysed	-	31/08/2020	31/08/2020	31/08/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1	<1	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1	<1	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ PFOS	%	100	101	102
Surrogate $^{13}C_2$ PFOA	%	104	103	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	86	85	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%	82	88	86
Extracted ISTD $^{13}C_4$ *PFOS*	%	82	86	85

PFAS in Soil Extended				
Our Reference		249261-22	249261-27	249261-31
Your Reference	UNITS	SS08	SS09	DUP1
Depth		0.33-0.43	0.2-0.3	-
Date Sampled		26/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment
Extracted ISTD 13C4 PFBA	%	79	79	79
Extracted ISTD $^{13}C_3$ *PFPeA*	%	82	82	82
Extracted ISTD $^{13}C_2$ *PFHxA*	%	81	85	84
Extracted ISTD $^{13}C_4$ *PFHpA*	%	86	87	88
Extracted ISTD $^{13}C_4$ *PFOA*	%	82	84	85
Extracted ISTD $^{13}C_5$ *PFNA*	%	83	85	90
Extracted ISTD $^{13}C_2$ *PFDA*	%	77	83	82
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	92	95	100
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	85	90	93
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	67	91	75
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	82	82	79
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	74	74	77
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	99	104	106
Extracted ISTD $^{13}C_8$ *FOSA*	%	76	82	81
Extracted ISTD d_3 *N MeFOSA*	%	55	61	61
Extracted ISTD d_5 *N EtFOSA*	%	51	57	54
Extracted ISTD d_7 *N MeFOSE*	%	83	83	87
Extracted ISTD d_9 *N EtFOSE*	%	84	88	90
Extracted ISTD d_3 *N MeFOSAA*	%	84	79	83
Extracted ISTD d_5 *N EtFOSAA*	%	85	82	83
Total Positive PFHxS & PFOS	µg/kg	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	<0.1	<0.1

Moisture						
Our Reference		249261-1	249261-2	249261-5	249261-6	249261-9
Your Reference	UNITS	SS26	SS26	SS22	SS22	SS01
Depth		0.1-0.2	0.2-0.3	0.1-0.2	0.2-0.3	0.1-0.2
Date Sampled		25/08/2020	25/08/2020	25/08/2020	25/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Moisture	%	13	21	14	23	13

Moisture						
Our Reference		249261-10	249261-13	249261-14	249261-17	249261-18
Your Reference	UNITS	SS01	SS02	SS02	SS03	SS03
Depth		0.2-0.3	0.1-0.2	0.2-0.3	0.1-0.2	0.2-0.3
Date Sampled		26/08/2020	26/08/2020	26/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Moisture	%	20	13	17	8.8	22

Moisture						
Our Reference		249261-21	249261-22	249261-25	249261-26	249261-27
Your Reference	UNITS	SS08	SS08	SS09-1	SS09-2	SS09
Depth		0.23-0.33	0.33-0.43	0.15-0.2	1.4-1.47	0.2-0.3
Date Sampled		26/08/2020	26/08/2020	25/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Moisture	%	9.4	21	12	9.0	21

Moisture			
Our Reference		249261-30	249261-31
Your Reference	UNITS	DUP1	DUP1
Depth		-	-
Date Sampled		25/08/2020	25/08/2020
Type of sample		Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020
Moisture	%	9.2	22

External Testing						
Our Reference		249261-1	249261-4	249261-8	249261-12	249261-16
Your Reference	UNITS	SS26	SS26	SS22	SS01	SS02
Depth		0.1-0.2	comp	comp	comp	comp
Date Sampled		25/08/2020	25/08/2020	25/08/2020	26/08/2020	26/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
MicroAnalysis ID		[NA]	#	#	#	#
$CaCO_3$ Content by XRF		#	[NA]	[NA]	[NA]	[NA]

External Testing				
Our Reference		249261-20	249261-24	249261-29
Your Reference	UNITS	SS03	SS08	SS09
Depth		comp	comp	comp
Date Sampled		26/08/2020	25/08/2020	25/08/2020
Type of sample		Sediment	Sediment	Sediment
MicroAnalysis ID		#	#	#

Total Metals in water		
Our Reference		249261-32
Your Reference	UNITS	EB1
Depth		-
Date Sampled		25/08/2020
Type of sample		Water
Date digested	-	03/09/2020
Date analysed	-	03/09/2020
Aluminium-Total	mg/L	7.0
Antimony-Total	mg/L	<0.001
Arsenic-Total	mg/L	<0.001
Cadmium-Total	mg/L	<0.0001
Chromium-Total	mg/L	0.005
Cobalt-Total	mg/L	<0.001
Copper-Total	mg/L	0.002
Iron-Total	mg/L	0.02
Lead-Total	mg/L	<0.001
Manganese-Total	mg/L	0.007
Mercury-Total	mg/L	<0.00005
Nickel-Total	mg/L	<0.001
Selenium-Total	mg/L	<0.001
Silver-Total	mg/L	<0.001
Vanadium-Total	mg/L	<0.001
Zinc-Total	mg/L	0.038

vTRH(C6-C10)/MBTEXN in water			
Our Reference		249261-32	249261-33
Your Reference	UNITS	EB1	TB
Depth		-	-
Date Sampled		25/08/2020	25/08/2020
Type of sample		Water	Water
Date analysed	-	01/09/2020	01/09/2020
TRH C_6 - C_9	µg/L	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10
TRH C_6-C_{10} less BTEX (F1)	µg/L	<10	<10
MTBE	µg/L	<1	<1
Benzene	µg/L	<1	<1
Toluene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
m+p-xylene	µg/L	<2	<2
o-xylene	µg/L	<1	<1
Naphthalene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	109	107
Surrogate toluene-d8	%	108	106
Surrogate 4-BFB	%	99	101

svTRH(C10-C40) in water		
Our Reference		249261-32
Your Reference	UNITS	EB1
Depth		-
Date Sampled		25/08/2020
Type of sample		Water
Date extracted	-	02/09/2020
Date analysed	-	03/09/2020
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
TRH >C_{10} - C_{16}	µg/L	59
TRH >C_{10} -C_{16} less N (F2)	µg/L	59
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Surrogate o-Terphenyl	%	94

Method ID	Methodology Summary
AGRI-001	Plant available Sulphur is determined by extraction with 0.25 M Potassium Chloride at 40°C for 3 hours. The resultant extract is then analysed by ICPAES.
Ext-059	Analysed by Microanalysis Australia.
EXT-091	Analysed by Greencap in-house method LOP-005 X-Ray Diffraction
INORG series	Determination of constituents in waters using colourimetric chemistry
INORG-001	pH - Measured using pH meter and electrode base on APHA latest edition, Method 4500-H+. Please note that the results for water analyses may be indicative only, as analysis can be completed outside of the APHA recommended holding times. Soils are reported from a 1:5 water extract unless otherwise specified.
INORG-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
INORG-055	Nitrite - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	Nitrate - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	NOx - determined colourimetrically. Soils are analysed from a water extract.
INORG-057	Ammonia by colourimetric analysis based on APHA latest edition 4500-NH3 F.
INORG-060	Phosphate- determined colourimetrically. Soils are analysed from a water extract.
INORG-062	TKN - determined colourimetrically based on APHA latest edition Norg C.
METALS-020	Determination of various metals by ICP-AES.
METALS-021	Determination of Mercury by Cold Vapour AAS. For urine samples total Mercury is determined, however, mercury in urine is almost entirely in the inorganic form (CDC).
METALS-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
ORG-023	VOC's in soil by methanolic extraction and water directly by purge and trap GC-MS.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated after SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: Metals in sediment						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-5
Date digested	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Aluminium	mg/kg	1	METALS-020	<1	1	870	810	7	89	#
Antimony	mg/kg	0.5	METALS-022	<0.5	1	<0.5	<0.5	0	111	105
Arsenic	mg/kg	0.5	METALS-022	<0.5	1	3.3	3.2	3	93	99
Cadmium	mg/kg	0.1	METALS-022	<0.1	1	<0.1	<0.1	0	99	102
Chromium	mg/kg	0.5	METALS-022	<0.5	1	3.4	3.2	6	102	94
Cobalt	mg/kg	0.5	METALS-022	<0.5	1	<0.5	<0.5	0	104	94
Copper	mg/kg	0.5	METALS-022	<0.5	1	<0.5	<0.5	0	100	88
Iron	mg/kg	1	METALS-020	<1	1	2200	2000	10	91	#
Lead	mg/kg	0.5	METALS-022	<0.5	1	1.7	1.6	6	102	90
Manganese	mg/kg	1	METALS-022	<1	1	28	26	7	100	96
Mercury	mg/kg	0.01	METALS-021	<0.01	1	<0.01	0.01	0	96	116
Nickel	mg/kg	0.5	METALS-022	<0.5	1	0.8	0.8	0	98	84
Selenium	mg/kg	0.1	METALS-022	<0.1	1	<0.1	<0.1	0	107	99
Silver	mg/kg	0.1	METALS-022	<0.1	1	<0.1	<0.1	0	97	100
Vanadium	mg/kg	0.5	METALS-022	<0.5	1	5.3	4.9	8	104	103
Zinc	mg/kg	0.5	METALS-022	<0.5	1	2.4	2.3	4	96	88

QUALITY CONTROL: TRH in Sediment (C6-C9) + BTEX						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-5
Date extracted	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	85	85
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	84	84
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	85	92
Toluene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	89	98
Ethylbenzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	82	90
m+p-xylene	mg/kg	0.4	Org-023	<0.4	1	<0.4	<0.4	0	84	90
o-xylene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	82	89
Surrogate aaa-Trifluorotoluene	%		Org-023	92	1	85	87	2	71	79

QUALITY CONTROL: sTRH in Sediment (C10-C36)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-5
Date extracted	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			04/09/2020	1	04/09/2020	04/09/2020		04/09/2020	04/09/2020
TRH C_{10} - C_{14}	mg/kg	25	Org-020	<25	1	<25	<25	0	81	90
TRH C_{15} - C_{28}	mg/kg	25	Org-020	<25	1	<25	<25	0	97	106
TRH C_{29} - C_{36}	mg/kg	25	Org-020	<25	1	<25	<25	0	75	78
TRH >C_{10} - C_{16}	mg/kg	25	Org-020	<25	1	<25	<25	0	90	98
TRH >C_{16} - C_{34}	mg/kg	25	Org-020	<25	1	<25	<25	0	92	101
TRH >C_{34} - C_{40}	mg/kg	25	Org-020	<25	1	<25	<25	0	109	95

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-5
Date extracted	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	109	95
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	mg/kg	1	Org-023	<1	1	<1	<1	0	111	96
2,2-dichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	111	95
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	113	91
Bromodichloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	111	95
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	108	91
1,2-dibromoethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	116	97
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	mg/kg	1	Org-023	<1	1	<1	<1	0	103	86
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	106	89

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-5
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		ORG-023	106	1	102	101	1	108	106
Surrogate aaa-Trifluorotoluene	%		Org-023	106	1	89	92	3	95	84
Surrogate Toluene-d_8	%		ORG-023	97	1	98	98	0	99	101
Surrogate 4-Bromofluorobenz	%		ORG-023	95	1	95	96	1	94	93

QUALITY CONTROL: PAHs in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-5
Date extracted	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			06/09/2020	1	06/09/2020	06/09/2020		06/09/2020	06/09/2020
Naphthalene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	80	65
2-Methylnaphthalene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluorene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	83	84
Phenanthrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	85	85
Anthracene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluoranthene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	83	91
Pyrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	83	90
Benzo(a)anthracene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Chrysene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	107	106
Benzo(b,j+k)fluoranthene	µg/kg	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Benzo(e)pyrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Benzo(a)pyrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	105	120
Perylene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Coronene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	92	1	82	83	1	83	81

QUALITY CONTROL: Speciated Phenols in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-5
Date extracted	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			06/09/2020	1	06/09/2020	06/09/2020		06/09/2020	06/09/2020
Phenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	93	126
2-Chlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	83	119
4-Chloro-3-methylphenol	mg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Methylphenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	82	124
3/4-Methylphenol	mg/kg	0.4	Org-022/025	<0.4	1	<0.4	<0.4	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	81	129
2,4,5-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2-Methyl-4,6-dinitrophenol	mg/kg	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Pentachlorophenol	mg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-022/025	93	1	76	67	13	102	100
Surrogate 2-fluorophenol	%		Org-022/025	79	1	73	67	9	86	112

QUALITY CONTROL: SVCH's in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-5
Date extracted	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			06/09/2020	1	06/09/2020	06/09/2020		06/09/2020	06/09/2020
1,3-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,4-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	82	99
1,2-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Hexachloroethane	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2,3-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2,4-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	76	73
1,3,5-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2,3,4-Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Hexachlorocyclopentadiene	mg/kg	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Pentachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Hexachlorobenzene (HCB)	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	92	1	82	83	1	83	81

QUALITY CONTROL: Nutrients in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-5
Date prepared	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Total Nitrogen	mg/kg	10	INORG-062	<10	1	87	100	14	117	113
Total Kjeldahl Nitrogen	mg/kg	10	INORG-062	<10	1	87	100	14	117	113
NOx as N (1:5 soil:water)	mg/kg	0.1	INORG-055	<0.1	1	<0.1	<0.1	0	105	81
Nitrate-N	mg/kg	0.1	INORG-055	<0.1	1	<0.1	<0.1	0	105	81
Nitrite-N	mg/kg	0.1	INORG-055	<0.1	1	<0.1	<0.1	0	103	100
Ammonia as N (1:5 KCl extract)	mg/kg	0.5	INORG-057	<0.5	1	4.4	4.5	2	89	78
Total Phosphorus	mg/kg	10	METALS-020	<10	1	120	96	22	102	98

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	[NT]
Date analysed	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	[NT]
pH	pH Units		INORG-001	[NT]	1	8.2	8.2	0	101	[NT]

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-6
Date prepared	-			31/08/2020	2	31/08/2020	31/08/2020		31/08/2020	31/08/2020
Date analysed	-			01/09/2020	2	01/09/2020	01/09/2020		31/08/2020	31/08/2020
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	94	93
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	91	95
Perfluorohexanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	79	86
Perfluoroheptanesulfonic acid	µg/kg	0.2	Org-029	<0.2	2	<0.1	<0.1	0	103	103
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	103	102
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	98	100
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	87	88
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	83	89
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	102	106
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	84	89
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	102	101
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	100	99
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	106	101
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	103	106
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	104	104
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	97	101
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	2	<5	<5	0	87	91
4:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	93	96
6:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	102	99
8:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.2	<0.2	0	99	99
10:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.2	<0.2	0	93	88
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	81	88
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	107	111
N-Ethyl perfluorooctanesulfon -amide	µg/kg	1	Org-029	<1	2	<1	<1	0	106	101
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	1	Org-029	<1	2	<1	<1	0	100	98
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	5	Org-029	<5	2	<5	<5	0	94	92
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	120	111
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	96	101
Surrogate $^{13}C_8$ PFOS	%		Org-029	99	2	98	100	2	95	102
Surrogate $^{13}C_2$ PFOA	%		Org-029	103	2	106	96	10	107	105
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	93	2	105	97	8	99	93

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-6
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	81	2	95	97	2	94	88
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	77	2	94	95	1	89	83
Extracted ISTD 13C4 PFBA	%		Org-029	88	2	94	94	0	95	80
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	93	2	108	103	5	102	85
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	77	2	89	91	2	88	81
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	86	2	101	99	2	97	85
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	81	2	90	96	6	89	84
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	84	2	90	89	1	94	86
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	84	2	101	99	2	95	82
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	90	2	106	101	5	102	102
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	85	2	118	111	6	95	90
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	71	2	96	109	13	81	95
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	85	2	96	95	1	92	81
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	84	2	100	97	3	92	80
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	113	2	128	107	18	114	101
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	83	2	104	101	3	92	83
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	80	2	87	92	6	93	60
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	78	2	80	86	7	91	56
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	83	2	96	100	4	92	89
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	77	2	92	103	11	87	90
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	84	2	91	88	3	91	81

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249261-6
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	91	2	124	114	8	102	85

QUALITY CONTROL: Moisture						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			03/09/2020	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Date analysed	-			03/09/2020	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Moisture	%	0.1	INORG-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: Total Metals in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			03/09/2020	[NT]	[NT]	[NT]	[NT]	03/09/2020	[NT]
Date analysed	-			03/09/2020	[NT]	[NT]	[NT]	[NT]	03/09/2020	[NT]
Aluminium-Total	mg/L	0.01	METALS-022	<0.01	[NT]	[NT]	[NT]	[NT]	99	[NT]
Antimony-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	111	[NT]
Arsenic-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	99	[NT]
Cadmium-Total	mg/L	0.0001	METALS-022	<0.0001	[NT]	[NT]	[NT]	[NT]	99	[NT]
Chromium-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]
Cobalt-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]
Copper-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]
Iron-Total	mg/L	0.01	METALS-022	<0.01	[NT]	[NT]	[NT]	[NT]	106	[NT]
Lead-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]
Manganese-Total	mg/L	0.005	METALS-022	<0.005	[NT]	[NT]	[NT]	[NT]	95	[NT]
Mercury-Total	mg/L	0.00005	METALS-021	<0.00005	[NT]	[NT]	[NT]	[NT]	108	[NT]
Nickel-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	94	[NT]
Selenium-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	101	[NT]
Silver-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	101	[NT]
Vanadium-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	98	[NT]
Zinc-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]

QUALITY CONTROL: vTRH(C6-C10)/MBTEXN in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date analysed	-			01/09/2020	[NT]	[NT]	[NT]	[NT]	01/09/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	93	[NT]
MTBE	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	86	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	107	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate toluene-d8	%		Org-023	108	[NT]	[NT]	[NT]	[NT]	108	[NT]
Surrogate 4-BFB	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	104	[NT]

QUALITY CONTROL: svTRH(C10-C40) in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			02/09/2020	[NT]	[NT]	[NT]	[NT]	02/09/2020	[NT]
Date analysed	-			03/09/2020	[NT]	[NT]	[NT]	[NT]	03/09/2020	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
Surrogate o-Terphenyl	%		Org-020	95	[NT]	[NT]	[NT]	[NT]	83	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

Report Comments

METALS:
Low (or high) spike recovery was obtained for this sample. Sample matrix interference is suspected. However, an acceptable recovery was achieved for the LCS.

PFAS Analysis conducted by Envirolab Sydney report 250048

PSD Analysis conducted by Microanalysis # See attached Reports 20_1331

Calcium carbonate analysis conducted by Greencap # See attached Report 39142

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling
Job Number : 20085.02
Project Manager: Joe Pedicini
Phone: 0408847239
Email: joe.pedicini@environmentalprojects.com.au
Results to: Lab.Results@environmentalprojects.com.au
Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab
Laboratory Quote Ref: DEW Port Stanvac
Secondary Laboratory:
Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 1

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD	Metals	TRH				Additional Comments / Notes
24	SS08	comp	25/08/2020	Sediment					1						Composite
25	SS09-1	0.15-0.2	↓	↓		1									
26	SS09-2	1.4-1.47				1									
27	SS09	0.2-0.3					1								
28	SS09	0.8-1.2						1							200 mm core length
29	SS09	comp							1						Composite
30	DUP1	-				1									
31	DUP1	-					1								
32	EB1	-		Water						1	1				
33	TB	-		Water							1				

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: MARK WOLSTENHOLME
Date\time requested: 270820 9am	Date\time received:
Signature:	Signature: M. Wolstenholme

Additional Comments

Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides

Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH

ELS Alex Skele 27/7/20 @ 12pm

Signed by Tahlia on behalf of UP.

COC

envirolab Laboratories
Job No.- 249285 61
Date Rec - 28/8/2020
Time Rec - 14:45
Rec By - GM
TAT Req - SAME 1 / 2 / 3 / STD
Temp - cool / ambient
Cooling - Ice / Icepack / None
Security Seal - Yes / No

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling

Job Number : 20085.02

Project Manager: Joe Pedicini

Phone: 0408847239

Email: joe.pedicini@environmentalprojects.com.au

Results to: Lab.Results@environmentalprojects.com.au

Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab

Laboratory Quote Ref: DEW Port Stanvac

Secondary Laboratory:

Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 1

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD						Additional Comments / Notes
1	SS26	0.1-0.2	25/08/2020	Sediment		1									
2	SS26	0.2-0.3	↓	↓			1								
3	SS26	0.2-0.45						1							250 mm core length
4	SS26	comp							1						Composite
5	SS22	0.1-0.2				1									
6	SS22	0.2-0.3					1								
7	SS22	0.7-0.95						1							250 mm core length
8	SS22	comp							1						Composite
9	SS01	0.1-0.2	26/08/2020			1									
10	SS01	0.2-0.3	↓				1								
11	SS01	0.2-0.4						1							200 mm core length
12	SS01	comp							1						Composite
13	SS02	0.1-0.2				1									
14	SS02	0.2-0.3					1								
15	SS02	0.2-0.4						1							200 mm core length
16	SS02	comp							1						Composite
17	SS03	0.1-0.2				1									
18	SS03	0.2-0.3					1								
19	SS03	0.2-0.4						1							200 mm core length
20	SS03	comp							1						Composite
21	SS08	0.23-0.33				1									
22	SS08	0.33-0.43					1								
23	SS08	1.1-1.3						1							200 mm core length

EP AUTHORISATION	LABORATORY RECEIPT	Additional Comments
Requested by: Joe Pedicini	Received by: MARK WOLSTENCROFT	Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides
Date\time requested: 270820 9am	Date\time received:	Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH
Signature:	Signature: M. Wolstencroft	ELS Alex Stella 27/7/20 @ 12p

signed by Tahlia on behalf of JP.

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
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16-18 Hayden Court Myaree WA 6154
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DATA QUALITY ASSESSMENT SUMMARY

Report Details

Envirolab Report Reference	**249261**
Client ID	Department for Environment and Water
Project Reference	Port Stanvac Sediment Sampling- 20085.02
Date Issued	22/10/2020

QC DATA

All laboratory QC data was within the Envirolab Group's specifications except:

QC Specification Exceptions

QC Type	Reference	Analysis	Comments
Spike Recovery %	249261-5	Aluminium	Fails internal acceptance criteria
Spike Recovery %	249261-5	Iron	Fails internal acceptance criteria

See Report 249261-[R00] for QA/QC details

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HOLDING TIME COMPLIANCE EVALUATION

All preservation / holding times (based on AS/ASPHA/ISO/NEPM/USEPA reference documents and standards) are compliant except:

Holding Time Exceedances

Analysis	Sample No	Date Sampled	Date Extracted	Date Analysed	Accepted
Miscellaneous Inorg - soil					
pH	249261-1	25/08/2020	03/09/2020	03/09/2020	X
pH	249261-5	25/08/2020	03/09/2020	03/09/2020	X
pH	249261-9	26/08/2020	03/09/2020	03/09/2020	X
pH	249261-13	26/08/2020	03/09/2020	03/09/2020	X
pH	249261-17	26/08/2020	03/09/2020	03/09/2020	X
pH	249261-21	26/08/2020	03/09/2020	03/09/2020	X
pH	249261-25	25/08/2020	03/09/2020	03/09/2020	X
pH	249261-26	25/08/2020	03/09/2020	03/09/2020	X
pH	249261-30	25/08/2020	03/09/2020	03/09/2020	X
External Testing					
	249261-4	25/08/2020			##
	249261-8	25/08/2020			##
	249261-12	26/08/2020			##
	249261-16	26/08/2020			##
	249261-20	26/08/2020			##
	249261-24	25/08/2020			##
	249261-29	25/08/2020			##
svTRH(C10-C40) in water					
	249261-32	25/08/2020	02/09/2020	03/09/2020	X

Holding Table Comments

No Extract or Analysed Dates were provided. Holding Times cannot be calculated.

Certain analyses have had their recommended technical holding times elongated by filtering and/or freezing on receipt at the laboratory (e.g. BOD, chlorophyll/Pheophytin, nutrients and acid sulphate soil tests).

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COMPLIANCE TO QC FREQUENCY (NEPM)

Internal laboratory QC rate complies with NEPM requirements (LCS/MB/MS 1 in 20, Duplicates 1 in 10 samples). Note, samples are batched together with other sample consignments in order to assign QC sample frequency.

QC Evaluation	
Duplicate(s) was performed as per NEPM frequency	✓
Laboratory Control Sample(s) were analysed with the samples received	✓
A Method Blank was performed with the samples received	✓
Matrix spike(s) was performed as per NEPM frequency (Not Applicable for Air samples)	✓

Refer to Certificate of Analysis for all Quality Control data.

Greencap
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Wayville SA 5034
P: (08) 8299 9955
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CALCIUM CARBONATE QUANTIFICATION REPORT No. 39142

1. INTRODUCTION

Sediment samples were received from MPL Laboratories with a request for determination of their calcium carbonate content. They were from various job numbers and Ca and Mg assays (acid-soluble) were provided. The samples contain shellgrit. Shellgrit is typically composed of aragonite, calcite and Mg-substituted calcite. Marine shell-building organisms (and coral) preferentially create the aragonite form of calcium carbonate because its interlocking crystals are stronger than that of the calcite calcium carbonate crystals. However, when shells grow they incorporate magnesium from seawater into their shells. This occurs in the shell as Mg-substituted calcite – the Mg content can vary in bands within the shell. Mg cannot be incorporated into the aragonite structure – it is always pure calcium carbonate.

2. PROCEDURE

The samples were pulverized then analyzed by X-ray diffraction to identify the minerals present. An average Mg content of Mg-substituted calcite was determined by XRD peak angle measurement. It was either $(Ca_{0.92}Mg_{0.08})CO_3$ or $(Ca_{0.87}Mg_{0.13})CO_3$ All Mg was allocated to Mg-substituted calcite and the remaining Ca allocated to (aragonite + calcite). Samples 249459-8 and 249459-40 had anomalously high Mg not supported by the XRD data so the calculation was erroneous. No attempt was made to separately calculate the aragonite and calcite contents.

3. RESULTS

MPL Sample ID	Client ID		Calculated Wt%			
			Shellgrit	Total $CaCO_3$	$CaCO_3$ in calcite + aragonite	$CaCO_3$ in Mg-substituted calcite
249261-1	SS26	0.1-0.2	19.4	18.4	6.1	12.2
249438-1	SS17	0.1-0.2	20.5	19.8	14.1	5.7
249438-13	SS21	0.1-0.2	24.8	23.4	7.1	16.3
249438-22	SS30	0.1-0.2	8.5	8.1	4.7	3.4
249459-8	SS13	0-0.1	14.5	13.6	2.6	11.0
249459-28	SS28	0.05-0.15	24.1	22.5	9.8	12.7
249459-34	SS29	0-0.1	30.2	29.0	14.4	14.5
249459-40	DUP2		14.4	13.4	2.2	11.2
250072-5	SS05	0-0.2	19.8	18.7	5.2	13.5

Testing Officer: Michael Till

Any and all services carried out by Greencap for the Client are subject to the Terms and Conditions listed on the Greencap website https://www.greencap.com.au/terms-conditions and are governed by our statements of limitation available at https://www.greencap.com.au/statements-limitation

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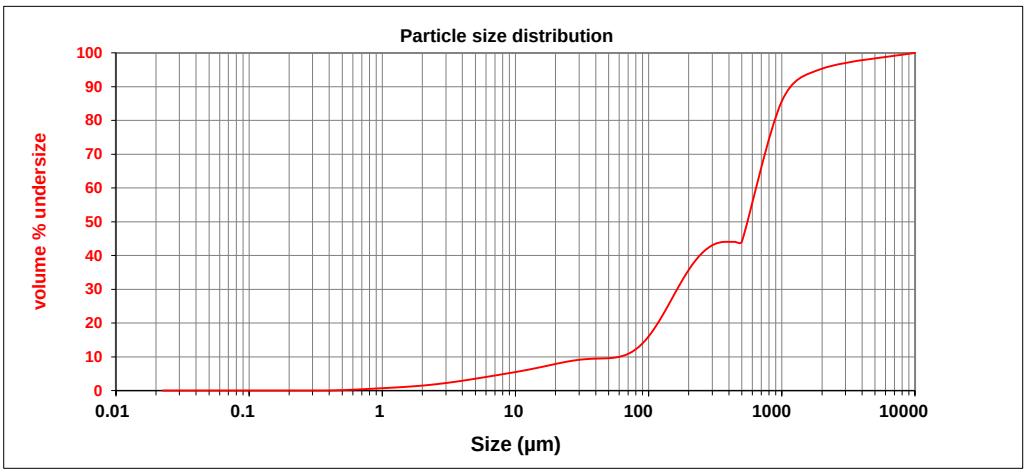
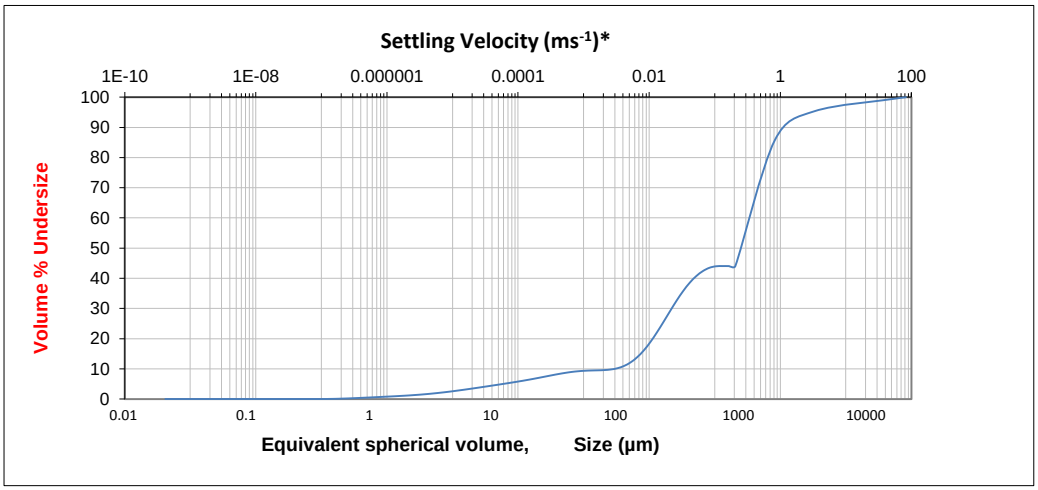
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249438-4	**Date reported:**	15/09/2020
Batch No :	20_1354		
Lab ID No :	20_1354_01		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	9 min sonication		

Span:	2.30	**Vol. Weighted mean D[4,3]:**	695.07 µm	**d(0.1)**	59.70 µm
		Surface weighted mean D[3,2]	32.00 µm	**d(0.5)**	560.00 µm
Volume % under 75um:	11.53%			**d(0.9)**	1350.00 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.70	7.096	4.49	50.238	9.59	355.66	43.98
0.022	0.00	0.159	0.00	1.125	0.81	7.962	4.82	56.368	9.80	399.05	44.05
0.025	0.00	0.178	0.00	1.262	0.92	8.934	5.16	63.246	10.22	447.74	44.04
0.028	0.00	0.200	0.00	1.416	1.04	10.024	5.50	70.963	10.98	500.00	44.05
0.032	0.00	0.224	0.00	1.589	1.17	11.247	5.85	79.621	12.17	1000.00	85.74
0.036	0.00	0.252	0.00	1.783	1.31	12.619	6.23	89.337	13.88	2000.00	95.33
0.040	0.00	0.283	0.00	2.000	1.47	14.159	6.62	100.237	16.13	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	1.66	15.887	7.03	112.468	18.89		
0.050	0.00	0.356	0.00	2.518	1.87	17.825	7.46	126.191	22.08		
0.056	0.00	0.399	0.03	2.825	2.10	20.000	7.88	141.589	25.55		
0.063	0.00	0.448	0.07	3.170	2.35	22.440	8.29	158.866	29.12		
0.071	0.00	0.502	0.14	3.557	2.62	25.179	8.66	178.250	32.59		
0.080	0.00	0.564	0.21	3.991	2.91	28.251	8.97	200.000	35.78		
0.089	0.00	0.632	0.30	4.477	3.21	31.698	9.21	224.404	38.52		
0.100	0.00	0.710	0.40	5.024	3.53	35.566	9.37	251.785	40.74		
0.112	0.00	0.796	0.50	5.637	3.85	39.905	9.45	282.508	42.38		
0.126	0.00	0.893	0.60	6.325	4.17	44.774	9.51	316.979	43.47		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

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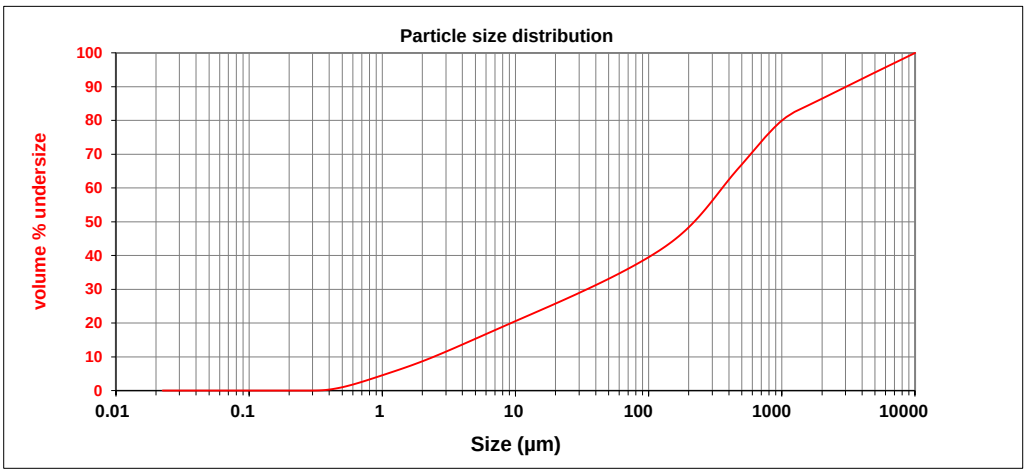
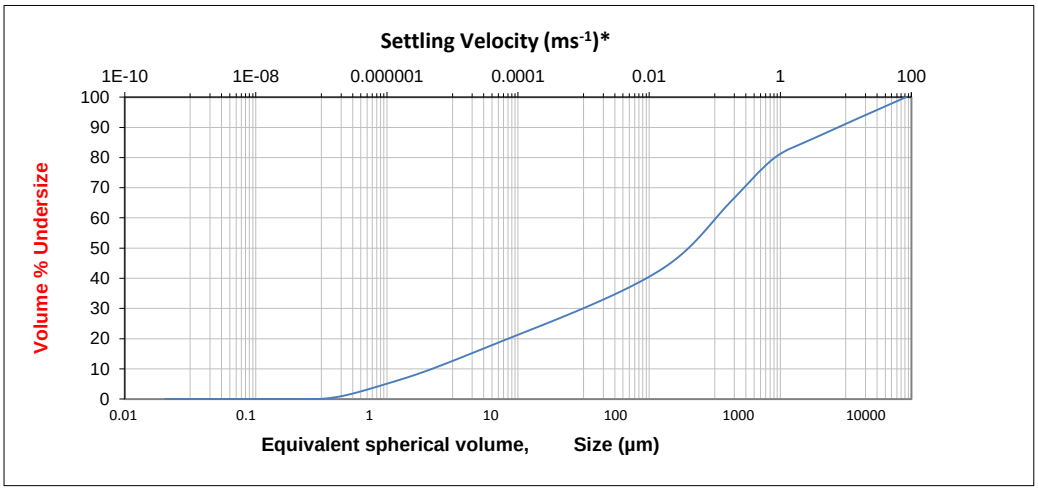
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249438-10	**Date reported:**	15/09/2020
Batch No :	20_1354		
Lab ID No :	20_1354_02		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	5 min sonication		

Span:	14.56	**Vol. Weighted mean D[4,3]:**	872.38 µm	**d(0.1)**	2.43 µm
		Surface weighted mean D[3,2]	7.10 µm	**d(0.5)**	219.69 µm
Volume % under 75um:	36.69%			**d(0.9)**	3201.00 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	4.54	7.096	17.99	50.238	33.13	355.66	59.93
0.022	0.00	0.159	0.00	1.125	5.20	7.962	18.86	56.368	34.12	399.05	62.43
0.025	0.00	0.178	0.00	1.262	5.86	8.934	19.73	63.246	35.14	447.74	64.81
0.028	0.00	0.200	0.00	1.416	6.52	10.024	20.59	70.963	36.18	500.00	66.97
0.032	0.00	0.224	0.00	1.589	7.21	11.247	21.45	79.621	37.26	1000.00	79.98
0.036	0.00	0.252	0.00	1.783	7.93	12.619	22.31	89.337	38.38	2000.00	86.45
0.040	0.00	0.283	0.00	2.000	8.67	14.159	23.17	100.237	39.54	10000.00	100.00
0.045	0.00	0.317	0.01	2.244	9.45	15.887	24.03	112.468	40.75		
0.050	0.00	0.356	0.10	2.518	10.25	17.825	24.90	126.191	42.03		
0.056	0.00	0.399	0.29	2.825	11.07	20.000	25.77	141.589	43.41		
0.063	0.00	0.448	0.61	3.170	11.92	22.440	26.65	158.866	44.91		
0.071	0.00	0.502	1.00	3.557	12.77	25.179	27.54	178.250	46.56		
0.080	0.00	0.564	1.49	3.991	13.63	28.251	28.44	200.000	48.38		
0.089	0.00	0.632	2.03	4.477	14.50	31.698	29.35	224.404	50.39		
0.100	0.00	0.710	2.63	5.024	15.37	35.566	30.27	251.785	52.58		
0.112	0.00	0.796	3.25	5.637	16.24	39.905	31.21	282.508	54.93		
0.126	0.00	0.893	3.89	6.325	17.12	44.774	32.16	316.979	57.41		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

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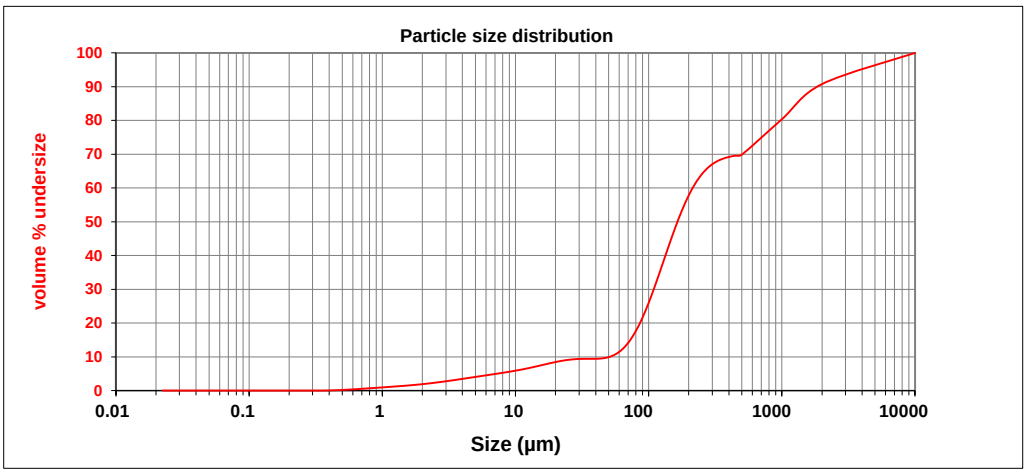
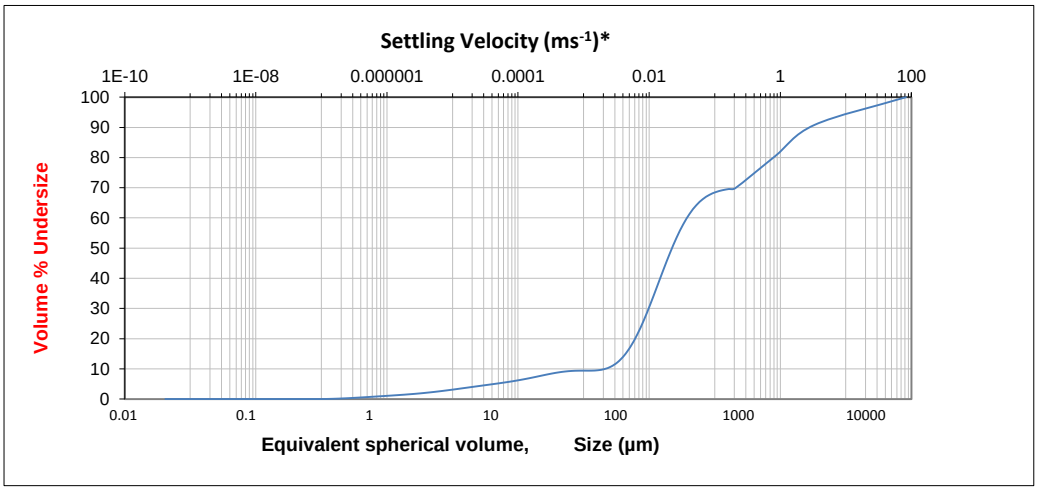
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249438-16	**Date reported:**	15/09/2020
Batch No :	20_1354		
Lab ID No :	20_1354_03		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	12 min sonication		

Span:	11.57	**Vol. Weighted mean D[4,3]:**	725.33 µm	**d(0.1)**	50.81 µm
		Surface weighted mean D[3,2]	25.88 µm	**d(0.5)**	164.88 µm
Volume % under 75um:	15.83%			**d(0.9)**	1958.00 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.94	7.096	4.94	50.238	9.92	355.66	68.57
0.022	0.00	0.159	0.00	1.125	1.08	7.962	5.24	56.368	10.75	399.05	69.18
0.025	0.00	0.178	0.00	1.262	1.22	8.934	5.56	63.246	12.20	447.74	69.58
0.028	0.00	0.200	0.00	1.416	1.37	10.024	5.90	70.963	14.40	500.00	69.86
0.032	0.00	0.224	0.00	1.589	1.53	11.247	6.27	79.621	17.46	1000.00	80.37
0.036	0.00	0.252	0.00	1.783	1.71	12.619	6.67	89.337	21.40	2000.00	90.78
0.040	0.00	0.283	0.00	2.000	1.90	14.159	7.10	100.237	26.11	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	2.12	15.887	7.56	112.468	31.44		
0.050	0.00	0.356	0.00	2.518	2.35	17.825	8.02	126.191	37.14		
0.056	0.00	0.399	0.04	2.825	2.61	20.000	8.45	141.589	42.90		
0.063	0.00	0.448	0.10	3.170	2.88	22.440	8.83	158.866	48.43		
0.071	0.00	0.502	0.19	3.557	3.16	25.179	9.12	178.250	53.48		
0.080	0.00	0.564	0.29	3.991	3.46	28.251	9.31	200.000	57.84		
0.089	0.00	0.632	0.41	4.477	3.76	31.698	9.39	224.404	61.41		
0.100	0.00	0.710	0.54	5.024	4.05	35.566	9.40	251.785	64.19		
0.112	0.00	0.796	0.67	5.637	4.35	39.905	9.40	282.508	66.22		
0.126	0.00	0.893	0.80	6.325	4.64	44.774	9.53	316.979	67.64		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

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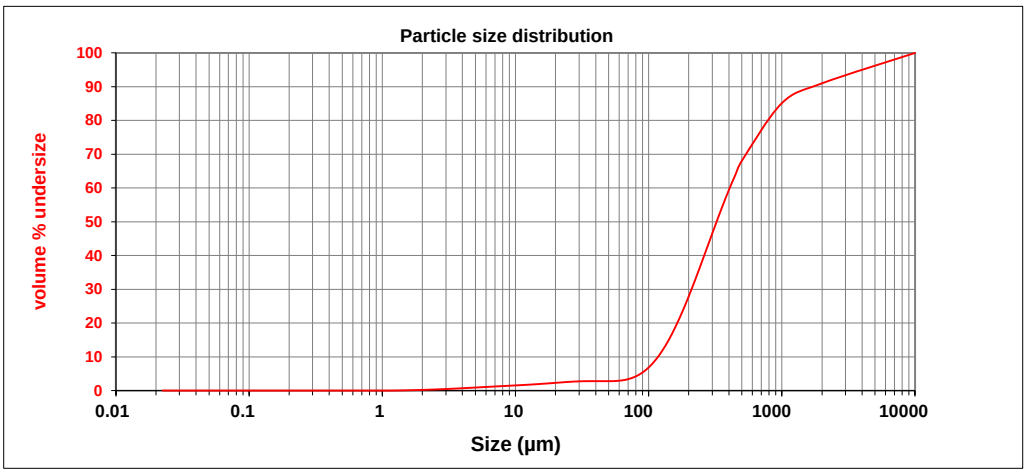
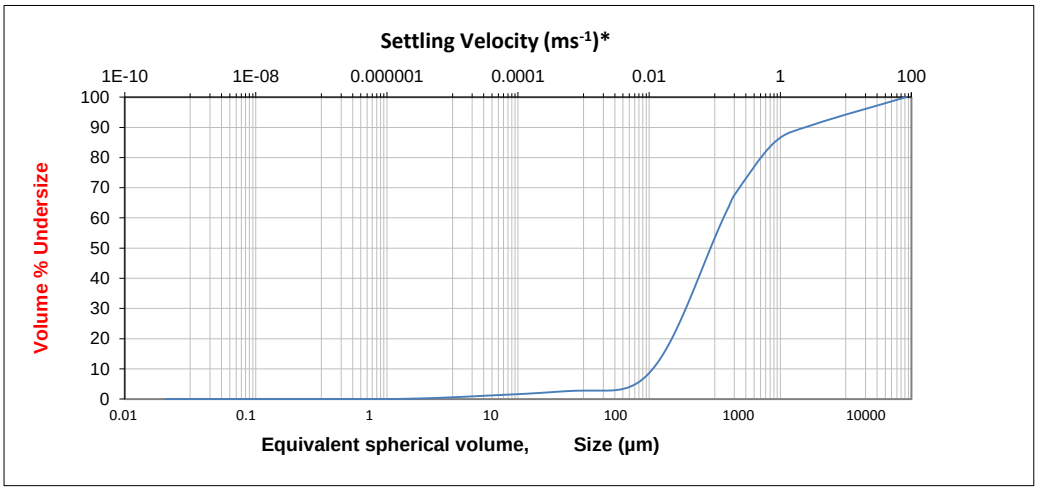
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249438-21	**Date reported:**	15/09/2020
Batch No :	20_1354		
Lab ID No :	20_1354_04		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	6 min sonication		

Span:	4.95	**Vol. Weighted mean D[4,3]:**	771.41 µm	**d(0.1)**	117.32 µm
		Surface weighted mean D[3,2]	115.36 µm	**d(0.5)**	323.72 µm
Volume % under 75um:	3.78%			**d(0.9)**	1720.30 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.00	7.096	1.22	50.238	2.79	355.66	54.33
0.022	0.00	0.159	0.00	1.125	0.00	7.962	1.32	56.368	2.83	399.05	59.31
0.025	0.00	0.178	0.00	1.262	0.01	8.934	1.43	63.246	3.03	447.74	63.92
0.028	0.00	0.200	0.00	1.416	0.05	10.024	1.53	70.963	3.44	500.00	68.03
0.032	0.00	0.224	0.00	1.589	0.09	11.247	1.63	79.621	4.17	1000.00	85.13
0.036	0.00	0.252	0.00	1.783	0.14	12.619	1.75	89.337	5.29	2000.00	90.99
0.040	0.00	0.283	0.00	2.000	0.20	14.159	1.87	100.237	6.90	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	0.26	15.887	2.00	112.468	9.04		
0.050	0.00	0.356	0.00	2.518	0.33	17.825	2.14	126.191	11.76		
0.056	0.00	0.399	0.00	2.825	0.41	20.000	2.29	141.589	15.05		
0.063	0.00	0.448	0.00	3.170	0.50	22.440	2.44	158.866	18.88		
0.071	0.00	0.502	0.00	3.557	0.59	25.179	2.57	178.250	23.21		
0.080	0.00	0.564	0.00	3.991	0.69	28.251	2.68	200.000	27.96		
0.089	0.00	0.632	0.00	4.477	0.79	31.698	2.76	224.404	33.03		
0.100	0.00	0.710	0.00	5.024	0.90	35.566	2.79	251.785	38.32		
0.112	0.00	0.796	0.00	5.637	1.01	39.905	2.79	282.508	43.71		
0.126	0.00	0.893	0.00	6.325	1.12	44.774	2.79	316.979	49.09		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

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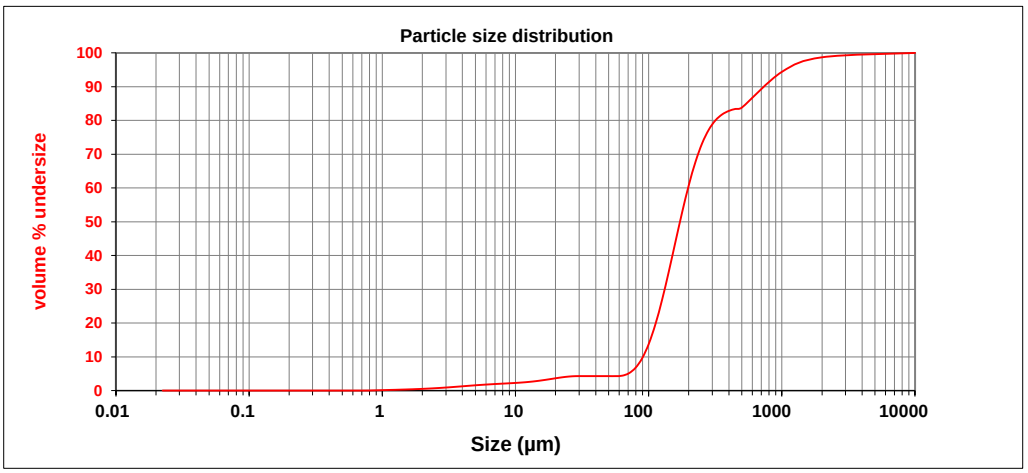
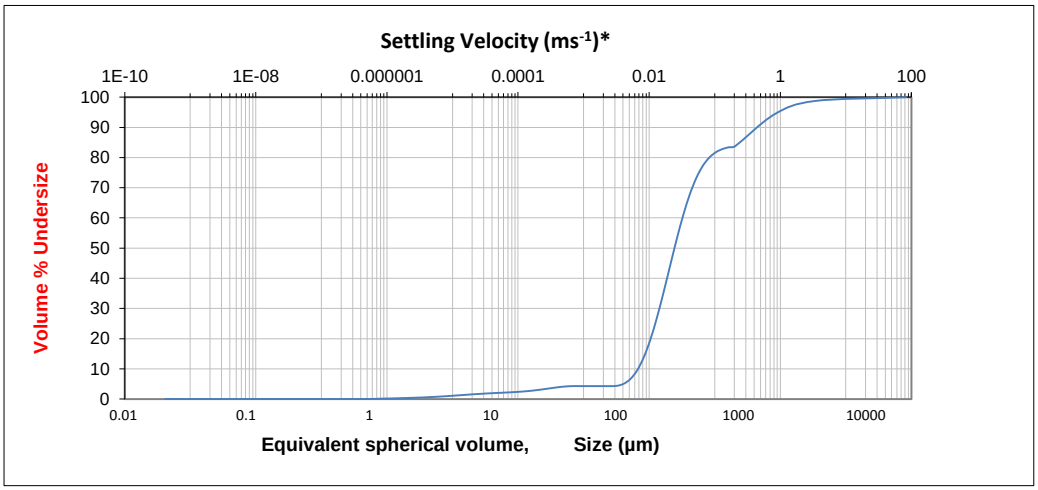
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249438-25	**Date reported:**	15/09/2020
Batch No :	20_1354		
Lab ID No :	20_1354_05		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	5 min sonication		

Span:	4.08	**Vol. Weighted mean D[4,3]:**	332.24 µm	**d(0.1)**	90.42 µm
		Surface weighted mean D[3,2]	65.94 µm	**d(0.5)**	172.04 µm
Volume % under 75um:	5.87%			**d(0.9)**	792.41 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.12	7.096	1.95	50.238	4.28	355.66	81.77
0.022	0.00	0.159	0.00	1.125	0.18	7.962	2.05	56.368	4.28	399.05	82.81
0.025	0.00	0.178	0.00	1.262	0.23	8.934	2.15	63.246	4.41	447.74	83.42
0.028	0.00	0.200	0.00	1.416	0.29	10.024	2.26	70.963	5.12	500.00	83.80
0.032	0.00	0.224	0.00	1.589	0.35	11.247	2.40	79.621	6.73	1000.00	94.40
0.036	0.00	0.252	0.00	1.783	0.42	12.619	2.57	89.337	9.57	2000.00	98.71
0.040	0.00	0.283	0.00	2.000	0.50	14.159	2.78	100.237	13.88	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	0.60	15.887	3.04	112.468	19.71		
0.050	0.00	0.356	0.00	2.518	0.71	17.825	3.33	126.191	26.97		
0.056	0.00	0.399	0.00	2.825	0.83	20.000	3.64	141.589	35.26		
0.063	0.00	0.448	0.00	3.170	0.96	22.440	3.93	158.866	44.07		
0.071	0.00	0.502	0.00	3.557	1.11	25.179	4.15	178.250	52.79		
0.080	0.00	0.564	0.00	3.991	1.26	28.251	4.27	200.000	60.83		
0.089	0.00	0.632	0.00	4.477	1.42	31.698	4.28	224.404	67.71		
0.100	0.00	0.710	0.00	5.024	1.57	35.566	4.28	251.785	73.21		
0.112	0.00	0.796	0.01	5.637	1.71	39.905	4.28	282.508	77.26		
0.126	0.00	0.893	0.07	6.325	1.83	44.774	4.28	316.979	80.03		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

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16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

DATA QUALITY ASSESSMENT SUMMARY

Report Details

Envirolab Report Reference	**249459**
Client ID	Department for Environment and Water (SA)
Project Reference	Port Stanvac Sediment Sampling- 20085.02
Date Issued	22/10/2020

QC DATA

All laboratory QC data was within the Envirolab Group's specifications except:

QC Specification Exceptions

QC Type	Reference	Analysis	Comments
Spike Recovery %	249459-8	Aluminium	Fails internal acceptance criteria
Spike Recovery %	249459-8	Iron	Fails internal acceptance criteria
Spike Recovery %	249459-8	Total Phosphorus	Fails internal acceptance criteria

See Report 249459-[R00] for QA/QC details

HOLDING TIME COMPLIANCE EVALUATION

All preservation / holding times (based on AS/ASPHA/ISO/NEPM/USEPA reference documents and standards) are compliant except:

Holding Time Exceedances

Analysis	Sample No	Date Sampled	Date Extracted	Date Analysed	Accepted
Miscellaneous Inorg - soil					
pH	249459-1	31/08/2020	08/09/2020	08/09/2020	X
pH	249459-8	31/08/2020	08/09/2020	08/09/2020	X
pH	249459-14	31/08/2020	08/09/2020	08/09/2020	X
pH	249459-18	31/08/2020	08/09/2020	08/09/2020	X
pH	249459-21	31/08/2020	08/09/2020	08/09/2020	X
pH	249459-28	31/08/2020	08/09/2020	08/09/2020	X
pH	249459-34	31/08/2020	08/09/2020	08/09/2020	X
pH	249459-40	31/08/2020	08/09/2020	08/09/2020	X
External Testing					
	249459-4	31/08/2020			##
	249459-11	31/08/2020			##
	249459-17	31/08/2020			##
	249459-20	31/08/2020			##
	249459-24	31/08/2020			##
	249459-31	31/08/2020			##
	249459-37	31/08/2020			##

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Holding Table Comments

No Extract or Analysed Dates were provided. Holding Times cannot be calculated.

Certain analyses have had their recommended technical holding times elongated by filtering and/or freezing on receipt at the laboratory (e.g. BOD, chlorophyll/Pheophytin, nutrients and acid sulphate soil tests).

COMPLIANCE TO QC FREQUENCY (NEPM)

Internal laboratory QC rate complies with NEPM requirements (LCS/MB/MS 1 in 20, Duplicates 1 in 10 samples). Note, samples are batched together with other sample consignments in order to assign QC sample frequency.

QC Evaluation

Duplicate(s) was performed as per NEPM frequency	✓
Laboratory Control Sample(s) were analysed with the samples received	✓
A Method Blank was performed with the samples received	✓
Matrix spike(s) was performed as per NEPM frequency (Not Applicable for Air samples)	✓

Refer to Certificate of Analysis for all Quality Control data.

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CERTIFICATE OF ANALYSIS 249459

Client Details

Client	Department for Environment and Water (SA)
Attention	Joe Pedicini
Address	81-95 Waymouth Street, ADELAIDE, SA, 5001

Sample Details

Your Reference	**Port Stanvac Sediment Sampling- 20085.02**
Number of Samples	27 Sediment and 1 Water
Date samples received	02/09/2020
Date completed instructions received	02/09/2020

Analysis Details

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

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

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

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

Report Details

Date results requested by	29/09/2020
Date of Issue	29/09/2020

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

Results Approved By
David Williams, Group Organics Manager
Heram Halim, Operations Manager
Huong Tran, Chemist
Michael Kubiak, Laboratory Manager
Travis Carey, Organics - Team Leader

Authorised By

Michael Kubiak, Laboratory Manager

Metals in sediment						
Our Reference		249459-1	249459-8	249459-14	249459-18	249459-21
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0-0.1	0-0.1	0.05-0.15	0.05-0.15	0-0.1
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date digested	-	16/09/2020	16/09/2020	16/09/2020	16/09/2020	16/09/2020
Date analysed	-	16/09/2020	16/09/2020	16/09/2020	16/09/2020	16/09/2020
Aluminium	mg/kg	2,100	820	1,800	980	870
Antimony	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic	mg/kg	2.9	3.1	10	4.9	2.9
Cadmium	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	mg/kg	3.3	3.3	7.5	3.5	3.9
Cobalt	mg/kg	<0.5	<0.5	0.8	<0.5	<0.5
Copper	mg/kg	0.5	<0.5	1.2	0.6	0.5
Iron	mg/kg	4,900	2,100	7,200	2,400	2,100
Lead	mg/kg	1.5	1.5	5.7	1.0	2.4
Manganese	mg/kg	29	31	33	15	30
Mercury	mg/kg	0.08	0.01	0.03	<0.01	<0.01
Nickel	mg/kg	1.1	1	2.1	1.0	1
Selenium	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Silver	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	mg/kg	5.9	5.6	16	9.5	5.6
Zinc	mg/kg	3.3	2.8	8.5	1.9	3.7

Metals in sediment				
Our Reference		249459-28	249459-34	249459-40
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.05-0.15	0-0.1	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Date digested	-	16/09/2020	16/09/2020	16/09/2020
Date analysed	-	16/09/2020	16/09/2020	16/09/2020
Aluminium	mg/kg	1,400	1,100	790
Antimony	mg/kg	<0.5	<0.5	<0.5
Arsenic	mg/kg	4.8	8.2	3.1
Cadmium	mg/kg	<0.1	<0.1	<0.1
Chromium	mg/kg	5.1	6.0	3.2
Cobalt	mg/kg	<0.5	<0.5	<0.5
Copper	mg/kg	0.6	0.6	<0.5
Iron	mg/kg	3,700	4,000	2,000
Lead	mg/kg	1.8	2.1	1.4
Manganese	mg/kg	46	29	31
Mercury	mg/kg	0.01	0.01	<0.01
Nickel	mg/kg	1.7	1.2	0.9
Selenium	mg/kg	<0.1	0.1	<0.1
Silver	mg/kg	<0.1	<0.1	<0.1
Vanadium	mg/kg	9.6	14	5.2
Zinc	mg/kg	4.0	3.0	2.6

VHC's in soil						
Our Reference		249459-1	249459-8	249459-14	249459-18	249459-21
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0-0.1	0-0.1	0.05-0.15	0.05-0.15	0-0.1
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
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
Carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
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
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
Bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		249459-1	249459-8	249459-14	249459-18	249459-21
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0-0.1	0-0.1	0.05-0.15	0.05-0.15	0-0.1
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Bromobenzene	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-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	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	%	97	97	102	105	97
Surrogate aaa-Trifluorotoluene	%	106	105	101	109	102
Surrogate Toluene-d_8	%	97	98	96	97	97
Surrogate 4-Bromofluorobenz	%	100	99	99	99	99

VHC's in soil				
Our Reference		249459-28	249459-34	249459-40
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.05-0.15	0-0.1	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	08/09/2020	08/09/2020	08/09/2020
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
Carbon tetrachloride	mg/kg	<1	<1	<1
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
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
Bromoform	mg/kg	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1

VHC's in soil				
Our Reference		249459-28	249459-34	249459-40
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.05-0.15	0-0.1	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Bromobenzene	mg/kg	<1	<1	<1
2-chlorotoluene	mg/kg	<1	<1	<1
4-chlorotoluene	mg/kg	<1	<1	<1
1,3-dichlorobenzene	mg/kg	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1
1,2-dichlorobenzene	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	%	97	98	96
Surrogate aaa-Trifluorotoluene	%	103	95	95
Surrogate Toluene-d_8	%	98	97	97
Surrogate 4-Bromofluorobenz	%	101	102	101

TRH in Sediment (C6-C9) + BTEX						
Our Reference		249459-1	249459-8	249459-14	249459-18	249459-21
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0-0.1	0-0.1	0.05-0.15	0.05-0.15	0-0.1
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
m+p-xylene	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
o-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Xylenes (total)	mg/kg	<0.6	<0.6	<0.6	<0.6	<0.6
Surrogate aaa-Trifluorotoluene	%	99	98	95	102	95

TRH in Sediment (C6-C9) + BTEX				
Our Reference		249459-28	249459-34	249459-40
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.05-0.15	0-0.1	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	08/09/2020	08/09/2020	08/09/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.2	<0.2	<0.2
Ethylbenzene	mg/kg	<0.2	<0.2	<0.2
m+p-xylene	mg/kg	<0.4	<0.4	<0.4
o-xylene	mg/kg	<0.2	<0.2	<0.2
Xylenes (total)	mg/kg	<0.6	<0.6	<0.6
Surrogate aaa-Trifluorotoluene	%	96	89	88

sTRH in Sediment (C10-C36)						
Our Reference		249459-1	249459-8	249459-14	249459-18	249459-21
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0-0.1	0-0.1	0.05-0.15	0.05-0.15	0-0.1
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
TRH C_{10} - C_{14}	mg/kg	<25	<25	<25	<25	<25
TRH C_{15} - C_{28}	mg/kg	<25	<25	<25	<25	<25
TRH C_{29} - C_{36}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (C10-C36)	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} - C_{16}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{16} - C_{34}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{34} - C_{40}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (>C10-C40)	mg/kg	<100	<100	<100	<100	<100

sTRH in Sediment (C10-C36)				
Our Reference		249459-28	249459-34	249459-40
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.05-0.15	0-0.1	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	09/09/2020	09/09/2020	09/09/2020
TRH C_{10} - C_{14}	mg/kg	<25	<25	<25
TRH C_{15} - C_{28}	mg/kg	<25	<25	<25
TRH C_{29} - C_{36}	mg/kg	<25	<25	<25
Summed total TRH's (C10-C36)	mg/kg	<100	<100	<100
TRH >C_{10} - C_{16}	mg/kg	<25	<25	<25
TRH >C_{16} - C_{34}	mg/kg	<25	<25	<25
TRH >C_{34} - C_{40}	mg/kg	<25	<25	<25
Summed total TRH's (>C10-C40)	mg/kg	<100	<100	<100

PAHs in Sediment (NAGD)						
Our Reference		249459-1	249459-8	249459-14	249459-18	249459-21
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0-0.1	0-0.1	0.05-0.15	0.05-0.15	0-0.1
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	14/09/2020	14/09/2020	14/09/2020	14/09/2020	14/09/2020
Naphthalene	µg/kg	<5	<5	<5	<5	<5
2-Methylnaphthalene	µg/kg	<5	<5	<5	<5	<5
Acenaphthylene	µg/kg	<5	<5	<5	<5	<5
Acenaphthene	µg/kg	<5	<5	<5	<5	<5
Fluorene	µg/kg	<5	<5	<5	<5	<5
Phenanthrene	µg/kg	<5	<5	<5	<5	<5
Anthracene	µg/kg	<5	<5	<5	<5	<5
Fluoranthene	µg/kg	<5	<5	<5	<5	<5
Pyrene	µg/kg	<5	<5	<5	<5	<5
Benzo(a)anthracene	µg/kg	<5	<5	<5	<5	<5
Chrysene	µg/kg	<5	<5	<5	<5	<5
Benzo(b,j+k)fluoranthene	µg/kg	<10	<10	<10	<10	<10
Benzo(e)pyrene	µg/kg	<5	<5	<5	<5	<5
Benzo(a)pyrene	µg/kg	<5	<5	<5	<5	<5
Perylene	µg/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	µg/kg	<5	<5	<5	<5	<5
Dibenzo(a,h)anthracene	µg/kg	<5	<5	<5	<5	<5
Benzo(g,h,i)perylene	µg/kg	<5	<5	<5	<5	<5
Coronene	µg/kg	<5	<5	<5	<5	<5
Surrogate p-Terphenyl-D_{14}	%	71	68	62	88	70

PAHs in Sediment (NAGD)				
Our Reference		249459-28	249459-34	249459-40
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.05-0.15	0-0.1	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	14/09/2020	14/09/2020	14/09/2020
Naphthalene	µg/kg	<5	<5	<5
2-Methylnaphthalene	µg/kg	<5	<5	<5
Acenaphthylene	µg/kg	<5	<5	<5
Acenaphthene	µg/kg	<5	<5	<5
Fluorene	µg/kg	<5	<5	<5
Phenanthrene	µg/kg	<5	<5	<5
Anthracene	µg/kg	<5	<5	<5
Fluoranthene	µg/kg	<5	<5	<5
Pyrene	µg/kg	<5	<5	<5
Benzo(a)anthracene	µg/kg	<5	<5	<5
Chrysene	µg/kg	<5	<5	<5
Benzo(b,j+k)fluoranthene	µg/kg	<10	<10	<10
Benzo(e)pyrene	µg/kg	<5	<5	<5
Benzo(a)pyrene	µg/kg	<5	<5	<5
Perylene	µg/kg	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	µg/kg	<5	<5	<5
Dibenzo(a,h)anthracene	µg/kg	<5	<5	<5
Benzo(g,h,i)perylene	µg/kg	<5	<5	<5
Coronene	µg/kg	<5	<5	<5
Surrogate p-Terphenyl-D_{14}	%	75	82	72

Speciated Phenols in Soil						
Our Reference		249459-1	249459-8	249459-14	249459-18	249459-21
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0-0.1	0-0.1	0.05-0.15	0.05-0.15	0-0.1
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	14/09/2020	14/09/2020	14/09/2020	14/09/2020	14/09/2020
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,6-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
Pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	67	74	65	97	82
Surrogate 2-fluorophenol	%	62	68	63	65	69

Speciated Phenols in Soil				
Our Reference		249459-28	249459-34	249459-40
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.05-0.15	0-0.1	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	14/09/2020	14/09/2020	14/09/2020
Phenol	mg/kg	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2
2,6-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2
2,4-Dinitrophenol	mg/kg	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2	<0.2	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10
Pentachlorophenol	mg/kg	<5	<5	<5
Surrogate Phenol-d_6	%	85	64	69
Surrogate 2-fluorophenol	%	73	69	69

SVCH's in Soil						
Our Reference		249459-1	249459-8	249459-14	249459-18	249459-21
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0-0.1	0-0.1	0.05-0.15	0.05-0.15	0-0.1
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	14/09/2020	14/09/2020	14/09/2020	14/09/2020	14/09/2020
1,3-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	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
1,3,5-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,4-Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	<2	<2	<2	<2	<2
Hexachlorobutadiene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-D_{14}	%	71	68	62	88	70

SVCH's in Soil				
Our Reference		249459-28	249459-34	249459-40
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.05-0.15	0-0.1	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	14/09/2020	14/09/2020	14/09/2020
1,3-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5
Hexachloroethane	mg/kg	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5
1,3,5-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5
1,2,3,4-Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	<2	<2	<2
Hexachlorobutadiene	mg/kg	<0.5	<0.5	<0.5
Pentachlorobenzene	mg/kg	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	mg/kg	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-D_{14}	%	75	82	72

Nutrients in Soil						
Our Reference		249459-1	249459-8	249459-14	249459-18	249459-21
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0-0.1	0-0.1	0.05-0.15	0.05-0.15	0-0.1
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
Date analysed	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
Total Nitrogen	mg/kg	100	79	180	97	90
Total Kjeldahl Nitrogen	mg/kg	100	79	180	97	90
NOx as N (1:5 soil:water)	mg/kg	0.22	<0.1	0.14	<0.1	<0.1
Nitrate-N	mg/kg	0.19	<0.1	0.13	<0.1	<0.1
Nitrite-N	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia as N (1:5 KCl extract)	mg/kg	6.5	2.9	3.3	4.9	3.6
Total Phosphorus	mg/kg	200	94	190	55	94
Organic N	mg/kg	96	76	180	92	86
Phosphate as P	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Nutrients in Soil				
Our Reference		249459-28	249459-34	249459-40
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.05-0.15	0-0.1	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Date prepared	-	11/09/2020	11/09/2020	11/09/2020
Date analysed	-	11/09/2020	11/09/2020	11/09/2020
Total Nitrogen	mg/kg	110	140	92
Total Kjeldahl Nitrogen	mg/kg	110	140	92
NOx as N (1:5 soil:water)	mg/kg	<0.1	<0.1	0.11
Nitrate-N	mg/kg	<0.1	<0.1	<0.1
Nitrite-N	mg/kg	<0.1	<0.1	<0.1
Ammonia as N (1:5 KCl extract)	mg/kg	3.6	3.2	4.0
Total Phosphorus	mg/kg	140	150	90
Organic N	mg/kg	110	140	88
Phosphate as P	mg/kg	<0.5	<0.5	<0.5

Miscellaneous Inorg - soil						
Our Reference		249459-1	249459-3	249459-8	249459-10	249459-14
Your Reference	UNITS	SS12-1	SS12	SS13-1	SS13	SS14
Depth		0-0.1	comp	0-0.1	0.2-0.5	0.05-0.15
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
pH	pH Units	8.1	[NA]	8.1	[NA]	8.1
Bulk Density*	g/cm3	[NA]	0.93	[NA]	1.70	[NA]

Miscellaneous Inorg - soil						
Our Reference		249459-16	249459-18	249459-21	249459-23	249459-28
Your Reference	UNITS	SS14	SS15	SS24-1	SS24	SS28-1
Depth		comp	0.05-0.15	0-0.1	0.2-0.5	0.05-0.15
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
pH	pH Units	[NA]	8.4	8.2	[NA]	8.0
Bulk Density*	g/cm3	1.38	[NA]	[NA]	1.36	[NA]
Total Cyanide	mg/kg	[NA]	[NA]	[NA]	[NA]	<0.25

Miscellaneous Inorg - soil					
Our Reference		249459-30	249459-34	249459-36	249459-40
Your Reference	UNITS	SS28	SS29-1	SS29-1	DUP 2
Depth		comp	0-0.1	0.2-0.4	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date prepared	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020
pH	pH Units	[NA]	8.3	[NA]	8.2
Bulk Density*	g/cm3	1.40	[NA]	1.20	[NA]

OCP in Sediment (NAGD)		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	14/09/2020
Hexachlorobenzene (HCB)	µg/kg	<1
a-BHC	µg/kg	<1
b-BHC	µg/kg	<1
Lindane (g-BHC)	µg/kg	<1
d-BHC	µg/kg	<1
Heptachlor	µg/kg	<1
Aldrin	µg/kg	<1
Heptachlor Epoxide	µg/kg	<1
a-chlordane	µg/kg	<1
g-Chlordane	µg/kg	<1
a-endosulphan	µg/kg	<1
p,p'-DDE	µg/kg	<1
Dieldrin	µg/kg	<1
Endrin	µg/kg	<1
p,p'-DDD	µg/kg	<1
b-endosulphan	µg/kg	<1
Endosulfan Sulphate	µg/kg	<1
p,p'-DDT	µg/kg	<1
Methoxychlor	µg/kg	<1
Oxychlordane	µg/kg	<1
Surrogate 2-chlorophenol-d4	%	70

OPP in Sediment (NAGD)		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	14/09/2020
Diazinon	µg/kg	<50
Dimethoate	µg/kg	<50
Chlorpyrifos-methyl	µg/kg	<50
Parathion-methyl	µg/kg	<50
Ronnel	µg/kg	<50
Fenitrothion	µg/kg	<50
Malathion	µg/kg	<50
Chlorpyrifos	µg/kg	<50
Fenthion	µg/kg	<50
Parathion-ethyl	µg/kg	<50
Ethion	µg/kg	<50
Bromophos Ethyl	µg/kg	<50
Surrogate 2-chlorophenol-d4	%	70

PCB in Sediment (NAGD)		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	14/09/2020
PCB C28	µg/kg	<0.5
PCB C52	µg/kg	<0.5
PCB C101	µg/kg	<0.5
PCB C118	µg/kg	<0.5
PCB C138	µg/kg	<0.5
PCB C153	µg/kg	<0.5
PCB C180	µg/kg	<0.5
Total PCB calc.	µg/kg	<5
Surrogate 2-fluorobiphenyl	%	93

Carbamates in soil		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	14/09/2020
Carbaryl	mg/kg	<0.5
Carbofuran	mg/kg	<0.5
Molinate	mg/kg	<0.5
Surrogate p-Terphenyl-D_{14}	%	75

Synthetic Pyrethroids in soil		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	14/09/2020
Bifenthrin	mg/kg	<0.2
Cyfluthrin	mg/kg	<0.1
Cypermethrin	mg/kg	<0.1
Deltamethrin	mg/kg	<0.2
Esfenvalerate	mg/kg	<0.2
Lamda-cyhalothrin	mg/kg	<0.2
cis-Permethrin	mg/kg	<0.2
trans-Permethrin	mg/kg	<0.2
Surrogate p-Terphenyl-D_{14}	%	75

Triazine Herbicides in soil		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	14/09/2020
Ametryn	mg/kg	<0.5
Atrazine	mg/kg	<0.5
Cyanazine	mg/kg	<0.5
Hexazinone	mg/kg	<0.5
Prometryn	mg/kg	<0.5
Simazine	mg/kg	<0.5
Terbutryn	mg/kg	<0.5
Propazine	mg/kg	<0.5
Irgarol	mg/kg	<0.5
Metribuzin	mg/kg	<0.5
Terbutylazine	mg/kg	<0.5
Surrogate p-Terphenyl-D_{14}	%	75

Dioxins/Furans in Soil		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	09/09/2020
2,3,7,8-TCDD *	pg/g	<1
2,3,7,8-TCDD WHO-TEQ_1 (zero)	pg/g	0
2,3,7,8-TCDD WHO-TEQ_2 (0.5 PQL)	pg/g	0.5
2,3,7,8-TCDD WHO-TEQ_3 PQL	pg/g	1
2,3,7,8-TCDD I-TEQ_1 (zero)	pg/g	0
2,3,7,8-TCDD I-TEQ_2 (0.5 PQL)	pg/g	0.5
2,3,7,8-TCDD I-TEQ_3 PQL	pg/g	1
$^{13}C_{12}$ Rec	%	77
1,2,3,7,8-PeCDD *	pg/g	<5
1,2,3,7,8-PeCDD WHO-TEQ_1 (zero)	pg/g	0
1,2,3,7,8-PeCDD WHO-TEQ_2 (0.5 PQL)	pg/g	2
1,2,3,7,8-PeCDD WHO-TEQ_3 PQL	pg/g	5
1,2,3,7,8-PeCDD I-TEQ_1 zero	pg/g	0
1,2,3,7,8-PeCDD I-TEQ_2 0.5 (PQL)	pg/g	1
1,2,3,7,8-PeCDD I-TEQ_3 (PQL)	pg/g	2
$^{13}C_{12}$ Rec	%	76
1,2,3,4,7,8-HxCDD *	pg/g	<5
1,2,3,4,7,8-HxCDD WHO-TEQ_1 (zero)	pg/g	0
1,2,3,4,7,8-HxCDD WHO-TEQ_2 (0.5 PQL)	pg/g	0.2
1,2,3,4,7,8-HxCDD WHO-TEQ_3 (PQL)	pg/g	0.5
1,2,3,4,7,8-HxCDD I-TEQ_1 zero	pg/g	0
1,2,3,4,7,8-HxCDD I-TEQ_2 0.5 (PQL)	pg/g	0.2
1,2,3,4,7,8-HxCDD I-TEQ_3 PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	67
1,2,3,4,7,8-HxCDD *	pg/g	<5
1,2,3,6,7,8-HxCDD WHO-TEQ_1 (zero)	pg/g	0
1,2,3,6,7,8-HxCDD WHO-TEQ_2 0.5 PQL	pg/g	0.2
1,2,3,6,7,8-HxCDD WHO-TEQ_3 (PQL)	pg/g	0.5
1,2,3,6,7,8-HxCDD I-TEQ_1 (zero)	pg/g	0
1,2,3,6,7,8-HxCDD I-TEQ_2 0.5 PQL	pg/g	0.2
1,2,3,6,7,8-HxCDD I-TEQ_3 PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	74
1,2,3,4,7,8-HxCDD *	pg/g	<5

Dioxins/Furans in Soil		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
1,2,3,7,8,9-HxCDD WHO-TEQ_1 zero	pg/g	0
1,2,3,7,8,9-HxCDD WHO-TEQ_2 0.5 PQL	pg/g	0.2
1,2,3,7,8,9-HxCDD WHO-TEQ_3 PQL	pg/g	0.5
1,2,3,7,8,9-HxCDD I-TEQ_1 zero	pg/g	0
1,2,3,7,8,9-HxCDD I-TEQ_2 0.5 PQL	pg/g	0.2
1,2,3,7,8,9-HxCDD I-TEQ_3 PQL	pg/g	0.5
1,2,3,4,6,7,8-HpCDD *	pg/g	<5
1,2,3,4,6,7,8-HpCDD WHO-TEQ_1 zero	pg/g	0
1,2,3,4,6,7,8-HpCDD WHO-TEQ_2 0.5 PQL	pg/g	0.02
1,2,3,4,6,7,8-HpCDD WHO-TEQ_3 PQL	pg/g	0.05
1,2,3,4,6,7,8-HpCDD I-TEQ_1 zero	pg/g	0
1,2,3,4,6,7,8-HpCDD I-TEQ_2 0.5 PQL	pg/g	0.02
1,2,3,4,6,7,8-HpCDD I-TEQ_3 PQL	pg/g	0.05
$^{13}C_{12}$ Rec	%	77
OCDD*	pg/g	<10
OCDD WHO-TEQ_1 zero	pg/g	0
OCDD WHO-TEQ_2 0.5 PQL	pg/g	0.002
OCDD WHO-TEQ_3 PQL	pg/g	0.003
OCDD I-TEQ_1 zero	pg/g	0
OCDD I-TEQ_2 0.5 PQL	pg/g	0.005
OCDD I-TEQ_3 PQL	pg/g	0.01
$^{13}C_{12}$ Rec	%	73
2,3,7,8-TCDF *	pg/g	<1
2,3,7,8-TCDF WHO-TEQ_1 zero	pg/g	0
2,3,7,8-TCDF WHO-TEQ_2 (0.5 PQL)	pg/g	0.05
2,3,7,8-TCDF WHO-TEQ_3 PQL	pg/g	0.1
2,3,7,8-TCDF I-TEQ_1 zero	pg/g	0
2,3,7,8-TCDF I-TEQ_2 0.5 PQL	pg/g	0.05
2,3,7,8-TCDF I-TEQ_3 PQL	pg/g	0.1
$^{13}C_{12}$ Rec	%	78
1,2,3,7,8-PeCDF *	pg/g	<5
1,2,3,7,8-PeCDF WHO-TEQ_1 zero	pg/g	0
1,2,3,7,8-PeCDF WHO-TEQ_2 (0.5 PQL)	pg/g	0.08
1,2,3,7,8-PeCDF WHO-TEQ_3 PQL	pg/g	0.2
1,2,3,7,8-PeCDF I-TEQ_1 zero	pg/g	0
1,2,3,7,8-PeCDF I-TEQ_2 0.5 PQL	pg/g	0.1

Dioxins/Furans in Soil		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
1,2,3,7,8-PeCDF I-TEQ$_3$ PQL	pg/g	0.2
$^{13}C_{12}$ Rec	%	78
1,2,3,7,8-PeCDF *	pg/g	<5
2,3,4,7,8-PeCDF WHO-TEQ$_1$	pg/g	0
2,3,4,7,8-PeCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.8
2,3,4,7,8-PeCDF WHO-TEQ$_3$ PQL	pg/g	1.5
2,3,4,7,8-PeCDF I-TEQ$_1$ zero	pg/g	0
2,3,4,7,8-PeCDF I-TEQ$_2$ 0.5 PQL	pg/g	1.2
2,3,4,7,8-PeCDF I-TEQ$_3$ PQL	pg/g	2.5
$^{13}C_{12}$ Rec	%	73
1,2,3,4,7,8-HxCDF *	pg/g	<5
1,2,3,4,7,8-HxCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,4,7,8-HxCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.2
1,2,3,4,7,8-HxCDF WHO-TEQ$_3$ PQL	pg/g	0.5
1,2,3,4,7,8-HxCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,4,7,8-HxCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.2
1,2,3,4,7,8-HxCDF I-TEQ$_3$ PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	70
1,2,3,4,7,8-HxCDF *	pg/g	<5
1,2,3,6,7,8-HxCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,6,7,8-HxCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.2
1,2,3,6,7,8-HxCDF WHO-TEQ$_3$ PQL	pg/g	0.5
1,2,3,6,7,8-HxCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,6,7,8-HxCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.2
1,2,3,6,7,8-HxCDF I-TEQ$_3$ PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	78
1,2,3,4,7,8-HxCDF *	pg/g	<5
1,2,3,7,8,9-HxCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,7,8,9-HxCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.2
1,2,3,7,8,9-HxCDF WHO-TEQ$_3$ PQL	pg/g	0.5
1,2,3,7,8,9-HxCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,7,8,9-HxCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.2
1,2,3,7,8,9-HxCDF I-TEQ$_3$ PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	76
1,2,3,4,7,8-HxCDF *	pg/g	<5
2,3,4,6,7,8-HxCDF WHO-TEQ$_1$ zero	pg/g	0

Dioxins/Furans in Soil		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
2,3,4,6,7,8-HxCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.2
2,3,4,6,7,8-HxCDF WHO-TEQ$_3$ PQL	pg/g	0.5
2,3,4,6,7,8-HxCDF I-TEQ$_1$ zero	pg/g	0
2,3,4,6,7,8-HxCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.2
2,3,4,6,7,8-HxCDF I-TEQ$_3$ PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	69
1,2,3,4,6,7,8-HpCDF *	pg/g	<5
1,2,3,4,6,7,8-HpCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,4,6,7,8-HpCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.02
1,2,3,4,6,7,8-HpCDF WHO-TEQ$_3$ PQL	pg/g	0.05
1,2,3,4,6,7,8-HpCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,4,6,7,8-HpCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.02
1,2,3,4,6,7,8-HpCDF I-TEQ$_3$ PQL	pg/g	0.05
$^{13}C_{12}$ Rec	%	68
1,2,3,4,6,7,8-HpCDF *	pg/g	<5
1,2,3,4,7,8,9-HpCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,4,7,8,9-HpCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.02
1,2,3,4,7,8,9-HpCDF WHO-TEQ$_3$ PQL	pg/g	0.05
1,2,3,4,7,8,9-HpCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,4,7,8,9-HpCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.02
1,2,3,4,7,8,9-HpCDF I-TEQ$_3$ PQL	pg/g	0.05
$^{13}C_{12}$ Rec	%	68
OCDF*	pg/g	<10
OCDF WHO-TEQ$_1$ zero	pg/g	0
OCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.002
OCDF WHO-TEQ$_3$ PQL	pg/g	0.003
OCDF I-TEQ$_1$ zero	pg/g	0
OCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.005
OCDF I-TEQ$_3$ PQL	pg/g	0.01
Total WHO-TEQ$_1$ calc (zero)	pg/g	0
Total WHO-TEQ$_2$ calc (0.5 PQL)	pg/g	5.7
Total WHO-TEQ$_3$ calc (PQL)	pg/g	11
Total I-TEQ$_1$ calc (zero)	pg/g	0
Total I-TEQ$_2$ calc (half)	pg/g	5.0
Total I-TEQ$_3$ calc (PQL)	pg/g	10

Organotin Compounds in Soil		
Our Reference		249459-28
Your Reference	UNITS	SS28-1
Depth		0.05-0.15
Date Sampled		31/08/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	09/09/2020
Monobutyltin as Sn	µg Sn/kg	0.6
Dibutyltin as Sn	µg Sn/kg	<0.5
Tributyltin as Sn	µg Sn/kg	<0.5
Surrogate Triphenyltin	%	96

PFAS in Soil Extended						
Our Reference		249459-2	249459-9	249459-15	249459-19	249459-22
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0.1-0.2	0.1-0.2	0.15-0.25	0.15-0.25	0.1-0.2
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ PFOS	%	99	101	101	100	101
Surrogate $^{13}C_2$ PFOA	%	85	88	77	83	85
Extracted ISTD $^{13}C_3$ *PFBS*	%	76	76	76	79	77
Extracted ISTD $^{18}O_2$ *PFHxS*	%	74	79	79	81	83
Extracted ISTD $^{13}C_4$ *PFOS*	%	88	87	88	91	86

PFAS in Soil Extended						
Our Reference		249459-2	249459-9	249459-15	249459-19	249459-22
Your Reference	UNITS	SS12-1	SS13-1	SS14	SS15	SS24-1
Depth		0.1-0.2	0.1-0.2	0.15-0.25	0.15-0.25	0.1-0.2
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Extracted ISTD 13C4 PFBA	%	34	33	36	36	35
Extracted ISTD $^{13}C_3$ PFPeA	%	56	52	57	56	56
Extracted ISTD $^{13}C_2$ PFHxA	%	70	71	70	75	73
Extracted ISTD $^{13}C_4$ PFHpA	%	73	73	75	75	75
Extracted ISTD $^{13}C_4$ PFOA	%	91	80	96	92	91
Extracted ISTD $^{13}C_5$ PFNA	%	82	76	88	80	90
Extracted ISTD $^{13}C_2$ PFDA	%	79	78	88	82	88
Extracted ISTD $^{13}C_2$ PFUnDA	%	92	95	96	109	91
Extracted ISTD $^{13}C_2$ PFDoDA	%	77	84	70	88	75
Extracted ISTD $^{13}C_2$ PFTeDA	%	68	43	54	50	48
Extracted ISTD $^{13}C_2$ 4:2FTS	%	88	80	90	88	87
Extracted ISTD $^{13}C_2$ 6:2FTS	%	123	97	128	129	126
Extracted ISTD $^{13}C_2$ 8:2FTS	%	116	116	156	106	159
Extracted ISTD $^{13}C_8$ FOSA	%	76	73	84	74	81
Extracted ISTD d_3 N MeFOSA	%	75	62	70	64	64
Extracted ISTD d_5 N EtFOSA	%	79	66	76	69	69
Extracted ISTD d_7 N MeFOSE	%	76	72	80	73	77
Extracted ISTD d_9 N EtFOSE	%	85	76	82	83	81
Extracted ISTD d_3 N MeFOSAA	%	81	89	92	89	85
Extracted ISTD d_5 N EtFOSAA	%	70	80	70	78	74
Total Positive PFHxS & PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1

PFAS in Soil Extended				
Our Reference		249459-29	249459-35	249459-41
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.15-0.25	0.1-0.2	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1	<1	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1	<1	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ PFOS	%	99	101	93
Surrogate $^{13}C_2$ PFOA	%	82	87	91
Extracted ISTD $^{13}C_3$ *PFBS*	%	77	75	75
Extracted ISTD $^{18}O_2$ *PFHxS*	%	79	81	81
Extracted ISTD $^{13}C_4$ *PFOS*	%	88	88	93

PFAS in Soil Extended				
Our Reference		249459-29	249459-35	249459-41
Your Reference	UNITS	SS28-1	SS29-1	DUP 2
Depth		0.15-0.25	0.1-0.2	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment
Extracted ISTD 13C4 PFBA	%	34	34	33
Extracted ISTD $^{13}C_3$ PFPeA	%	54	53	53
Extracted ISTD $^{13}C_2$ PFHxA	%	73	70	70
Extracted ISTD $^{13}C_4$ PFHpA	%	74	76	73
Extracted ISTD $^{13}C_4$ PFOA	%	92	89	81
Extracted ISTD $^{13}C_5$ PFNA	%	78	86	75
Extracted ISTD $^{13}C_2$ PFDA	%	73	75	80
Extracted ISTD $^{13}C_2$ PFUnDA	%	89	86	106
Extracted ISTD $^{13}C_2$ PFDoDA	%	79	80	88
Extracted ISTD $^{13}C_2$ PFTeDA	%	50	62	54
Extracted ISTD $^{13}C_2$ 4:2FTS	%	88	86	86
Extracted ISTD $^{13}C_2$ 6:2FTS	%	125	115	92
Extracted ISTD $^{13}C_2$ 8:2FTS	%	94	125	108
Extracted ISTD $^{13}C_8$ FOSA	%	71	75	72
Extracted ISTD d_3 N MeFOSA	%	64	73	68
Extracted ISTD d_5 N EtFOSA	%	67	81	73
Extracted ISTD d_7 N MeFOSE	%	74	80	73
Extracted ISTD d_9 N EtFOSE	%	81	88	80
Extracted ISTD d_3 N MeFOSAA	%	84	82	88
Extracted ISTD d_5 N EtFOSAA	%	75	73	76
Total Positive PFHxS & PFOS	µg/kg	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	<0.1	<0.1

Moisture						
Our Reference		249459-1	249459-2	249459-8	249459-9	249459-14
Your Reference	UNITS	SS12-1	SS12-1	SS13-1	SS13-1	SS14
Depth		0-0.1	0.1-0.2	0-0.1	0.1-0.2	0.05-0.15
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Moisture	%	23	20	21	22	22

Moisture						
Our Reference		249459-15	249459-18	249459-19	249459-21	249459-22
Your Reference	UNITS	SS14	SS15	SS15	SS24-1	SS24-1
Depth		0.15-0.25	0.05-0.15	0.15-0.25	0-0.1	0.1-0.2
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Moisture	%	16	18	19	20	19

Moisture						
Our Reference		249459-28	249459-29	249459-34	249459-35	249459-40
Your Reference	UNITS	SS28-1	SS28-1	SS29-1	SS29-1	DUP 2
Depth		0.05-0.15	0.15-0.25	0-0.1	0.1-0.2	-
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Moisture	%	22	19	21	20	20

Moisture		
Our Reference		249459-41
Your Reference	UNITS	DUP 2
Depth		-
Date Sampled		31/08/2020
Type of sample		Sediment
Date prepared	-	08/09/2020
Date analysed	-	09/09/2020
Moisture	%	20

External Testing						
Our Reference		249459-4	249459-8	249459-11	249459-17	249459-20
Your Reference	UNITS	SS12	SS13-1	SS13	SS14	SS15
Depth		comp	0-0.1	comp	comp	comp
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
MicroAnalysis ID		See attached	[NA]	See attached	See attached	See attached
$CaCO_3$ Content by XRF		[NA]	#	[NA]	[NA]	[NA]

External Testing						
Our Reference		249459-24	249459-28	249459-31	249459-34	249459-37
Your Reference	UNITS	SS24	SS28-1	SS28	SS29-1	SS29-1
Depth		comp	0.05-0.15	comp	0-0.1	comp
Date Sampled		31/08/2020	31/08/2020	31/08/2020	31/08/2020	31/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
MicroAnalysis ID		See attached	[NA]	See attached	[NA]	See attached
$CaCO_3$ Content by XRF		[NA]	#	[NA]	#	[NA]

External Testing		
Our Reference		249459-40
Your Reference	UNITS	DUP 2
Depth		-
Date Sampled		31/08/2020
Type of sample		Sediment
$CaCO_3$ Content by XRF		#

Total Metals in water		
Our Reference		249459-42
Your Reference	UNITS	EB2
Depth		-
Date Sampled		31/08/2020
Type of sample		Water
Date digested	-	08/09/2020
Date analysed	-	08/09/2020
Aluminium-Total	mg/L	<0.01
Antimony-Total	mg/L	<0.001
Arsenic-Total	mg/L	<0.001
Cadmium-Total	mg/L	<0.0001
Chromium-Total	mg/L	<0.001
Cobalt-Total	mg/L	<0.001
Copper-Total	mg/L	<0.001
Iron-Total	mg/L	0.01
Lead-Total	mg/L	<0.001
Manganese-Total	mg/L	<0.005
Mercury-Total	mg/L	<0.00005
Nickel-Total	mg/L	<0.001
Selenium-Total	mg/L	<0.001
Silver-Total	mg/L	<0.001
Vanadium-Total	mg/L	<0.001
Zinc-Total	mg/L	<0.001

vTRH(C6-C10)/MBTEXN in water			
Our Reference		249459-42	249459-43
Your Reference	UNITS	EB2	TB
Depth		-	-
Date Sampled		31/08/2020	31/08/2020
Type of sample		Water	Water
Date analysed	-	07/09/2020	07/09/2020
TRH C_6 - C_9	µg/L	07/09/2020	07/09/2020
TRH C_6 - C_{10}	µg/L	<10	<10
TRH C_6-C_{10} less BTEX (F1)	µg/L	<10	<10
MTBE	µg/L	<1	<1
Benzene	µg/L	<1	<1
Toluene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
m+p-xylene	µg/L	<2	<2
o-xylene	µg/L	<1	<1
Naphthalene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	101	103
Surrogate toluene-d8	%	101	102
Surrogate 4-BFB	%	98	99

svTRH(C10-C40) in water		
Our Reference		249459-42
Your Reference	UNITS	EB2
Depth		-
Date Sampled		31/08/2020
Type of sample		Water
Date extracted	-	07/09/2020
Date analysed	-	07/09/2020
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} -C_{16} less N (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Surrogate o-Terphenyl	%	72

Method ID	Methodology Summary
AGRI-001	Plant available Sulphur is determined by extraction with 0.25 M Potassium Chloride at 40°C for 3 hours. The resultant extract is then analysed by ICPAES.
Ext-059	Analysed by Microanalysis Australia.
EXT-091	Analysed by Greencap in-house method LOP-005 X-Ray Diffraction
INORG series	Determination of constituents in waters using colourimetric chemistry
INORG-001	pH - Measured using pH meter and electrode base on APHA latest edition, Method 4500-H+. Please note that the results for water analyses may be indicative only, as analysis can be completed outside of the APHA recommended holding times. Soils are reported from a 1:5 water extract unless otherwise specified.
INORG-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
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-055	Nitrite - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	Nitrate - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	NOx - determined colourimetrically. Soils are analysed from a water extract.
INORG-057	Ammonia by colourimetric analysis based on APHA latest edition 4500-NH3 F.
INORG-060	Phosphate- determined colourimetrically. Soils are analysed from a water extract.
INORG-062	TKN - determined colourimetrically based on APHA latest edition Norg C.
METALS-020	Determination of various metals by ICP-AES.
METALS-021	Determination of Mercury by Cold Vapour AAS. For urine samples total Mercury is determined, however, mercury in urine is almost entirely in the inorganic form (CDC).
METALS-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Due to issues such as environmental weathering, and the sample preparation required to do ultra low levels, reliable identification of the Arochlor may not be possible, and so reporting the total PCBs as an Arochlor is not recommended. The Total PCB is calculated by summing 6 of the 7 congeners and multiplying this by 5 (according to DIN 51 527). The PCB congener C118 is excluded from the calculation.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
ORG-023	VOC's in soil by methanolic extraction and water directly by purge and trap GC-MS.
Org-025	Water samples are extracted with DCM and concentrated. The extract is analysed by GC-MSMS for selected Dioxin and Furans. Soils and Sorbents are solvent extracted, followed by an extract clean-up and GC/MSMS analysis. 1. I -TEQ(zero) and WHO-TEQ(zero) calculated where analyte components that are <PQL are considered to be zero in the TEQ calculation. Where all sample analyte results are <PQL, the calculated sample TEQ = 0, this is due to the calculation being an arithmetic formula and therefore does not reflect the associated PQLs. 2. I -TEQ(0.5) and WHO-TEQ(0.5) calculated where analyte components that are <PQL are considered to be 0.5 * the component PQL in the TEQ calculation. 3. I-TEQ(PQL) and WHO-TEQ(PQL) calculated where analyte components that are <PQL are considered to be equal to the component PQL in the TEQ calculation. 13C12 Rec is the recovery of Isotopically labelled compound added by the Laboratory for quantification and to measure extraction efficiency. I-TEF - International toxic equivalency factor I-TEQ - International toxic equivalence WHO-TEF - World Health Organisation toxic equivalency factor WHO-TEQ - World Health Organisation toxic equivalence TEQ values are rounded to the same number of significant figures as the raw results for consistency and therefore may not calculate out exactly as PQL * TEF, given rounded up or down as appropriate.
Org-025/026	Water extracts are derivatised and extracted. Soils are extracted with a mix of water and methanolic KOH solution, neutralised and then derivatised and further extracted. The extracts are analysed by GC-MSMS. Alternatively, analyse directly by HS-GC-MSMS.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated after SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.
USEPA Method 1613	Analysis of Dioxins and Furans based on USEPA Method 1613. 1. I -TEQ(zero) and WHO-TEQ(zero) calculated treating <PQL as zero concentration 2. I -TEQ(0.5) and WHO-TEQ(0.5) calculated treating <PQL as 0.5 PQL concentration 3. I-TEQ(PQL) and WHO-TEQ(PQL) calculated treating <PQL as PQL concentration

QUALITY CONTROL: Metals in sediment						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-8
Date digested	-			16/09/2020	1	16/09/2020	16/09/2020		16/09/2020	16/09/2020
Date analysed	-			16/09/2020	1	16/09/2020	16/09/2020		16/09/2020	16/09/2020
Aluminium	mg/kg	1	METALS-020	<1	1	2100	1900	10	87	#
Antimony	mg/kg	0.5	METALS-022	<0.5	1	<0.5	<0.5	0	106	107
Arsenic	mg/kg	0.5	METALS-022	<0.5	1	2.9	2.7	7	100	103
Cadmium	mg/kg	0.1	METALS-022	<0.1	1	<0.1	<0.1	0	106	106
Chromium	mg/kg	0.5	METALS-022	<0.5	1	3.3	3.0	10	104	102
Cobalt	mg/kg	0.5	METALS-022	<0.5	1	<0.5	<0.5	0	93	93
Copper	mg/kg	0.5	METALS-022	<0.5	1	0.5	<0.5	0	98	96
Iron	mg/kg	1	METALS-020	<1	1	4900	4300	13	108	#
Lead	mg/kg	0.5	METALS-022	<0.5	1	1.5	1.2	22	102	98
Manganese	mg/kg	1	METALS-022	<1	1	29	27	7	100	111
Mercury	mg/kg	0.01	METALS-021	<0.01	1	0.08	0.05	46	100	[NT]
Nickel	mg/kg	0.5	METALS-022	<0.5	1	1.1	1	10	99	98
Selenium	mg/kg	0.1	METALS-022	<0.1	1	<0.1	<0.1	0	106	106
Silver	mg/kg	0.1	METALS-022	<0.1	1	<0.1	<0.1	0	96	98
Vanadium	mg/kg	0.5	METALS-022	<0.5	1	5.9	5.3	11	102	107
Zinc	mg/kg	0.5	METALS-022	<0.5	1	3.3	2.9	13	104	100

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-1
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	28	<1	<1	0	137	115
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Bromochloromethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Chloroform	mg/kg	1	Org-023	<1	28	<1	<1	0	135	115
2,2-dichloropropane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	28	<1	<1	0	129	111
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	28	<1	<1	0	132	112
1,1-dichloropropene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Dibromomethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Trichloroethene	mg/kg	1	Org-023	<1	28	<1	<1	0	127	107
Bromodichloromethane	mg/kg	1	Org-023	<1	28	<1	<1	0	135	116
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Dibromochloromethane	mg/kg	1	Org-023	<1	28	<1	<1	0	133	114
1,2-dibromoethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Tetrachloroethene	mg/kg	1	Org-023	<1	28	<1	<1	0	133	113
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Chlorobenzene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Bromoform	mg/kg	1	Org-023	<1	28	<1	<1	0	128	110
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Bromobenzene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	28	<1	<1	0	122	108

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-1
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	28	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		ORG-023	98	28	97	101	4	95	101
Surrogate aaa-Trifluorotoluene	%		Org-023	111	28	103	106	3	116	98
Surrogate Toluene-d_8	%		ORG-023	98	28	98	98	0	100	99
Surrogate 4-Bromofluorobenz	%		ORG-023	101	28	101	100	1	100	97

QUALITY CONTROL: TRH in Sediment (C6-C9) + BTEX						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-1
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
TRH C_6 - C_9	mg/kg	25	Org-023	<25	28	<25	<25	0	131	112
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	28	<25	<25	0	130	112
Benzene	mg/kg	0.2	Org-023	<0.2	28	<0.2	<0.2	0	131	113
Toluene	mg/kg	0.2	Org-023	<0.2	28	<0.2	<0.2	0	135	117
Ethylbenzene	mg/kg	0.2	Org-023	<0.2	28	<0.2	<0.2	0	127	108
m+p-xylene	mg/kg	0.4	Org-023	<0.4	28	<0.4	<0.4	0	130	112
o-xylene	mg/kg	0.2	Org-023	<0.2	28	<0.2	<0.2	0	128	112
Surrogate aaa-Trifluorotoluene	%		Org-023	104	28	96	99	3	108	92

QUALITY CONTROL: sTRH in Sediment (C10-C36)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-1
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			09/09/2020	28	09/09/2020	09/09/2020		09/09/2020	09/09/2020
TRH C_{10} - C_{14}	mg/kg	25	Org-020	<25	28	<25	<25	0	90	76
TRH C_{15} - C_{28}	mg/kg	25	Org-020	<25	28	<25	<25	0	96	81
TRH C_{29} - C_{36}	mg/kg	25	Org-020	<25	28	<25	<25	0	84	71
TRH >C_{10} - C_{16}	mg/kg	25	Org-020	<25	28	<25	<25	0	97	81
TRH >C_{16} - C_{34}	mg/kg	25	Org-020	<25	28	<25	<25	0	91	76
TRH >C_{34} - C_{40}	mg/kg	25	Org-020	<25	28	<25	<25	0	109	95

QUALITY CONTROL: PAHs in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-1
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			14/09/2020	28	14/09/2020	14/09/2020		14/09/2020	14/09/2020
Naphthalene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	77	81
2-Methylnaphthalene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Fluorene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	87	73
Phenanthrene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	91	87
Anthracene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Fluoranthene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	93	71
Pyrene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	94	73
Benzo(a)anthracene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Chrysene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	112	91
Benzo(b,j+k)fluoranthene	µg/kg	10	Org-022/025	<10	28	<10	<10	0	[NT]	[NT]
Benzo(e)pyrene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Benzo(a)pyrene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	105	90
Perylene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Coronene	µg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	86	28	75	77	3	79	69

QUALITY CONTROL: Speciated Phenols in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-1
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			14/09/2020	28	14/09/2020	14/09/2020		14/09/2020	14/09/2020
Phenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	117	112
2-Chlorophenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	95	78
4-Chloro-3-methylphenol	mg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
2-Methylphenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	65	64
3/4-Methylphenol	mg/kg	0.4	Org-022/025	<0.4	28	<0.4	<0.4	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	88	69
2,4,5-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	4	Org-022/025	<4	28	<4	<4	0	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022/025	<4	28	<4	<4	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
2-Methyl-4,6-dinitrophenol	mg/kg	10	Org-022/025	<10	28	<10	<10	0	[NT]	[NT]
Pentachlorophenol	mg/kg	5	Org-022/025	<5	28	<5	<5	0	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-022/025	81	28	85	87	2	92	72
Surrogate 2-fluorophenol	%		Org-022/025	75	28	73	79	8	86	73

QUALITY CONTROL: SVCH's in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-1
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			14/09/2020	28	14/09/2020	14/09/2020		08/09/2020	14/09/2020
1,3-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
1,4-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	76	64
1,2-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Hexachloroethane	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
1,2,3-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
1,2,4-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	75	78
1,3,5-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
1,2,3,4-Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Hexachlorocyclopentadiene	mg/kg	2	Org-022/025	<2	28	<2	<2	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Pentachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Hexachlorobenzene (HCB)	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	86	28	75	77	3	79	69

QUALITY CONTROL: Nutrients in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-8
Date prepared	-			11/09/2020	1	11/09/2020	11/09/2020		11/09/2020	11/09/2020
Date analysed	-			11/09/2020	1	11/09/2020	11/09/2020		11/09/2020	11/09/2020
Total Nitrogen	mg/kg	10	INORG-062	<10	1	100	[NT]		113	[NT]
Total Kjeldahl Nitrogen	mg/kg	10	INORG-062	<10	1	100	[NT]		113	[NT]
NOx as N (1:5 soil:water)	mg/kg	0.1	INORG-055	<0.1	1	0.22	0.20	10	102	[NT]
Nitrate-N	mg/kg	0.1	INORG-055	<0.1	1	0.19	0.17	11	102	[NT]
Nitrite-N	mg/kg	0.1	INORG-055	<0.1	1	<0.1	<0.1	0	101	[NT]
Ammonia as N (1:5 KCl extract)	mg/kg	0.5	INORG-057	<0.5	1	6.5	6.6	2	101	[NT]
Total Phosphorus	mg/kg	10	METALS-020	<10	1	200	170	16	103	#

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-28
Date prepared	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
pH	pH Units		INORG-001	[NT]	28	8.0	[NT]		101	[NT]
Total Cyanide	mg/kg	0.25	INORG-014	[NT]	28	<0.25	<0.25	0	[NT]	[NT]

QUALITY CONTROL: OCP in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	[NT]
Date analysed	-			14/09/2020	28	14/09/2020	14/09/2020		14/09/2020	[NT]
Hexachlorobenzene (HCB)	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
a-BHC	µg/kg	1	Org-022/025	<1	28	<1	<1	0	87	[NT]
b-BHC	µg/kg	1	Org-022/025	<1	28	<1	<1	0	90	[NT]
Lindane (g-BHC)	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
d-BHC	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
Heptachlor	µg/kg	1	Org-022/025	<1	28	<1	<1	0	91	[NT]
Aldrin	µg/kg	1	Org-022/025	<1	28	<1	<1	0	88	[NT]
Heptachlor Epoxide	µg/kg	1	Org-022/025	<1	28	<1	<1	0	97	[NT]
a-chlordane	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
g-Chlordane	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
a-endosulphan	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
p,p'-DDE	µg/kg	1	Org-022/025	<1	28	<1	<1	0	91	[NT]
Dieldrin	µg/kg	1	Org-022/025	<1	28	<1	<1	0	102	[NT]
Endrin	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
p,p'-DDD	µg/kg	1	Org-022/025	<1	28	<1	<1	0	94	[NT]
b-endosulphan	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
Endosulfan Sulphate	µg/kg	1	Org-022/025	<1	28	<1	<1	0	90	[NT]
p,p'-DDT	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
Methoxychlor	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
Oxychlordane	µg/kg	1	Org-022/025	<1	28	<1	<1	0	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022/025	82	28	70	72	3	72	[NT]

QUALITY CONTROL: OPP in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	[NT]
Date analysed	-			14/09/2020	28	14/09/2020	14/09/2020		14/09/2020	[NT]
Diazinon	µg/kg	50	Org-022/025	<50	28	<50	<50	0	[NT]	[NT]
Dimethoate	µg/kg	50	Org-022/025	<50	28	<50	<50	0	[NT]	[NT]
Chlorpyrifos-methyl	µg/kg	50	Org-022/025	<50	28	<50	<50	0	90	[NT]
Parathion-methyl	µg/kg	50	Org-022/025	<50	28	<50	<50	0	[NT]	[NT]
Ronnel	µg/kg	50	Org-022/025	<50	28	<50	<50	0	[NT]	[NT]
Fenitrothion	µg/kg	50	Org-022/025	<50	28	<50	<50	0	114	[NT]
Malathion	µg/kg	50	Org-022/025	<50	28	<50	<50	0	[NT]	[NT]
Chlorpyrifos	µg/kg	50	Org-022/025	<50	28	<50	<50	0	90	[NT]
Fenthion	µg/kg	50	Org-022/025	<50	28	<50	<50	0	[NT]	[NT]
Parathion-ethyl	µg/kg	50	Org-022/025	<50	28	<50	<50	0	[NT]	[NT]
Ethion	µg/kg	50	Org-022/025	<50	28	<50	<50	0	99	[NT]
Bromophos Ethyl	µg/kg	50	Org-022/025	<50	28	<50	<50	0	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022/025	82	28	70	72	3	72	[NT]

QUALITY CONTROL: PCB in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	[NT]
Date analysed	-			14/09/2020	28	14/09/2020	14/09/2020		14/09/2020	[NT]
PCB C28	µg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
PCB C52	µg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
PCB C101	µg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	93	[NT]
PCB C118	µg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
PCB C138	µg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
PCB C153	µg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
PCB C180	µg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	82	28	93	78	18	68	[NT]

QUALITY CONTROL: Carbamates in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	[NT]
Date analysed	-			14/09/2020	28	14/09/2020	14/09/2020		14/09/2020	[NT]
Carbaryl	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Carbofuran	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	132	[NT]
Molinate	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	86	28	75	77	3	79	[NT]

QUALITY CONTROL: Synthetic Pyrethroids in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	[NT]
Date analysed	-			14/09/2020	28	14/09/2020	14/09/2020		14/09/2020	[NT]
Bifenthrin	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	134	[NT]
Cyfluthrin	mg/kg	0.1	Org-022/025	<0.1	28	<0.1	<0.1	0	[NT]	[NT]
Cypermethrin	mg/kg	0.1	Org-022/025	<0.1	28	<0.1	<0.1	0	[NT]	[NT]
Deltamethrin	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
Esfenvalerate	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
Lamda-cyhalothrin	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	111	[NT]
cis-Permethrin	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
trans-Permethrin	mg/kg	0.2	Org-022/025	<0.2	28	<0.2	<0.2	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	86	28	75	77	3	79	[NT]

QUALITY CONTROL: Triazine Herbicides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	[NT]
Date analysed	-			14/09/2020	28	14/09/2020	14/09/2020		14/09/2020	[NT]
Ametryn	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Atrazine	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	109	[NT]
Cyanazine	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Hexazinone	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Prometryn	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	108	[NT]
Simazine	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Terbutryn	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Propazine	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	108	[NT]
Irgarol	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Metribuzin	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Terbutylazine	mg/kg	0.5	Org-022/025	<0.5	28	<0.5	<0.5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	86	28	75	77	3	79	[NT]

QUALITY CONTROL: Dioxins/Furans in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-28
Date extracted	-			08/09/2020	28	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			09/09/2020	28	09/09/2020	09/09/2020		09/09/2020	09/09/2020
2,3,7,8-TCDD *	pg/g	1	USEPA Method 1613	<1	28	<1	<1	0	107	102
$^{13}C_{12}$ Rec	%		Org-025	85	28	77	71	8	105	79
1,2,3,7,8-PeCDD *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	102	105
$^{13}C_{12}$ Rec	%		Org-025	89	28	76	71	7	106	77
1,2,3,4,7,8-HxCDD *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	102	105
$^{13}C_{12}$ Rec	%		Org-025	84	28	67	72	7	105	74
1,2,3,4,7,8-HxCDD *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	99	101
$^{13}C_{12}$ Rec	%		Org-025	84	28	74	74	0	105	74
1,2,3,4,7,8-HxCDD *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	97	99
1,2,3,4,6,7,8-HpCDD *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	110	103
$^{13}C_{12}$ Rec	%		Org-025	93	28	77	69	11	113	67
OCDD*	pg/g	10	USEPA Method 1613	<10	28	<10	<10	0	101	98
$^{13}C_{12}$ Rec	%		Org-025	[NT]	28	73	71	3	[NT]	[NT]
2,3,7,8-TCDF *	pg/g	1	USEPA Method 1613	<1	28	<1	<1	0	106	102
$^{13}C_{12}$ Rec	%		USEPA Method 1613	90	28	78	75	4	103	81
1,2,3,7,8-PeCDF *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	106	106
$^{13}C_{12}$ Rec	%		USEPA Method 1613	90	28	78	75	4	107	80
1,2,3,7,8-PeCDF *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	109	108
$^{13}C_{12}$ Rec	%		USEPA Method 1613	88	28	73	69	6	106	76
1,2,3,4,7,8-HxCDF *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	113	104
$^{13}C_{12}$ Rec	%		USEPA Method 1613	84	28	70	67	4	97	78
1,2,3,4,7,8-HxCDF *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	101	109

QUALITY CONTROL: Dioxins/Furans in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-28
$^{13}C_{12}$ Rec	%		USEPA Method 1613	95	28	78	75	4	111	73
1,2,3,4,7,8-HxCDF *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	102	103
$^{13}C_{12}$ Rec	%		USEPA Method 1613	89	28	76	72	5	117	73
1,2,3,4,7,8-HxCDF *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	97	111
$^{13}C_{12}$ Rec	%		USEPA Method 1613	85	28	69	68	1	105	76
1,2,3,4,6,7,8-HpCDF *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	101	113
$^{13}C_{12}$ Rec	%		USEPA Method 1613	89	28	68	63	8	109	72
1,2,3,4,6,7,8-HpCDF *	pg/g	5	USEPA Method 1613	<5	28	<5	<5	0	104	102
$^{13}C_{12}$ Rec	%		USEPA Method 1613	88	28	68	63	8	108	71
OCDF*	pg/g	10	USEPA Method 1613	<10	28	<10	<10	0	98	84

QUALITY CONTROL: Organotin Compounds in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			08/09/2020	[NT]	[NT]	[NT]	[NT]	08/09/2020	[NT]
Date analysed	-			09/09/2020	[NT]	[NT]	[NT]	[NT]	09/09/2020	[NT]
Monobutyltin as Sn	µg Sn/kg	0.5	Org-025/026	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibutyltin as Sn	µg Sn/kg	0.5	Org-025/026	<0.5	[NT]	[NT]	[NT]	[NT]	74	[NT]
Tributyltin as Sn	µg Sn/kg	0.5	Org-025/026	<0.5	[NT]	[NT]	[NT]	[NT]	91	[NT]
Surrogate Triphenyltin	%		Org-025/026	98	[NT]	[NT]	[NT]	[NT]	114	[NT]

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-9
Date prepared	-			03/09/2020	2	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			03/09/2020	2	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	101	97
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	105	108
Perfluorohexanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	106	120
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	97	100
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	100	97
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	95	91
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	112	123
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	99	99
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	106	109
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	100	104
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	105	102
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	95	98
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	107	111
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	106	104
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	104	101
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	86	73
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	2	<5	<5	0	108	112
4:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	108	110
6:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	114	109
8:2 FTS	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	106	105
10:2 FTS	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	130	85
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	108	114
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	100	105
N-Ethyl perfluorooctanesulfon -amide	µg/kg	1	Org-029	<1	2	<1	<1	0	94	86
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	1	Org-029	<1	2	<1	<1	0	107	115
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	5	Org-029	<5	2	<5	<5	0	104	104
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	93	87
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	103	112
Surrogate $^{13}C_8$ PFOS	%		Org-029	92	2	99	91	8	98	92
Surrogate $^{13}C_2$ PFOA	%		Org-029	92	2	85	81	5	94	84
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	87	2	76	74	3	88	74

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-9
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	91	2	74	79	7	90	76
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	99	2	88	92	4	95	89
Extracted ISTD 13C4 PFBA	%		Org-029	67	2	34	33	3	63	31
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	80	2	56	54	4	78	52
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	89	2	70	67	4	90	68
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	90	2	73	73	0	85	71
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	104	2	91	84	8	91	84
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	93	2	82	73	12	88	88
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	91	2	79	72	9	96	80
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	103	2	92	97	5	118	89
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	99	2	77	89	14	107	68
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	85	2	68	53	25	82	33
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	103	2	88	84	5	103	83
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	136	2	123	107	14	91	127
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	132	2	116	105	10	137	138
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	88	2	76	70	8	88	75
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	83	2	75	68	10	88	54
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	91	2	79	68	15	91	58
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	84	2	76	67	13	92	67
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	97	2	85	76	11	97	75
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	97	2	81	81	0	108	82

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249459-9
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	93	2	70	81	15	102	64

QUALITY CONTROL: Moisture						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			08/09/2020	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Date analysed	-			09/09/2020	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Moisture	%	0.1	INORG-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: Total Metals in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			08/09/2020	42	08/09/2020	08/09/2020		08/09/2020	[NT]
Date analysed	-			08/09/2020	42	08/09/2020	08/09/2020		08/09/2020	[NT]
Aluminium-Total	mg/L	0.01	METALS-022	<0.01	42	<0.01	[NT]		106	[NT]
Antimony-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		113	[NT]
Arsenic-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		101	[NT]
Cadmium-Total	mg/L	0.0001	METALS-022	<0.0001	42	<0.0001	[NT]		97	[NT]
Chromium-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		100	[NT]
Cobalt-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		103	[NT]
Copper-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		102	[NT]
Iron-Total	mg/L	0.01	METALS-022	<0.01	42	0.01	[NT]		117	[NT]
Lead-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		96	[NT]
Manganese-Total	mg/L	0.005	METALS-022	<0.005	42	<0.005	[NT]		100	[NT]
Mercury-Total	mg/L	0.00005	METALS-021	<0.00005	42	<0.00005	<0.00005	0	98	[NT]
Nickel-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		99	[NT]
Selenium-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		103	[NT]
Silver-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		95	[NT]
Vanadium-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		103	[NT]
Zinc-Total	mg/L	0.001	METALS-022	<0.001	42	<0.001	[NT]		98	[NT]

QUALITY CONTROL: vTRH(C6-C10)/MBTEXN in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date analysed	-			07/09/2020	[NT]	[NT]	[NT]	[NT]	07/09/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	92	[NT]
MTBE	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	88	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate toluene-d8	%		Org-023	102	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate 4-BFB	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: svTRH(C10-C40) in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			07/09/2020	[NT]	[NT]	[NT]	[NT]	07/09/2020	[NT]
Date analysed	-			07/09/2020	[NT]	[NT]	[NT]	[NT]	07/09/2020	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	78	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	77	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	78	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	73	[NT]
Surrogate o-Terphenyl	%		Org-020	70	[NT]	[NT]	[NT]	[NT]	65	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

Report Comments

METALS # Low (or high) spike recovery was obtained for this sample. Sample matrix interference is suspected. However, an acceptable recovery was achieved for the LCS.

PSD and Sieving analysis conducted by Microanalysis. Report 20_1366.
Please see attached for analytical reports.

PFAS analysis conducted by Envirolab Services. Report 250275.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Calcium carbonate analysis conducted by Greencap report 39142 # Attached.

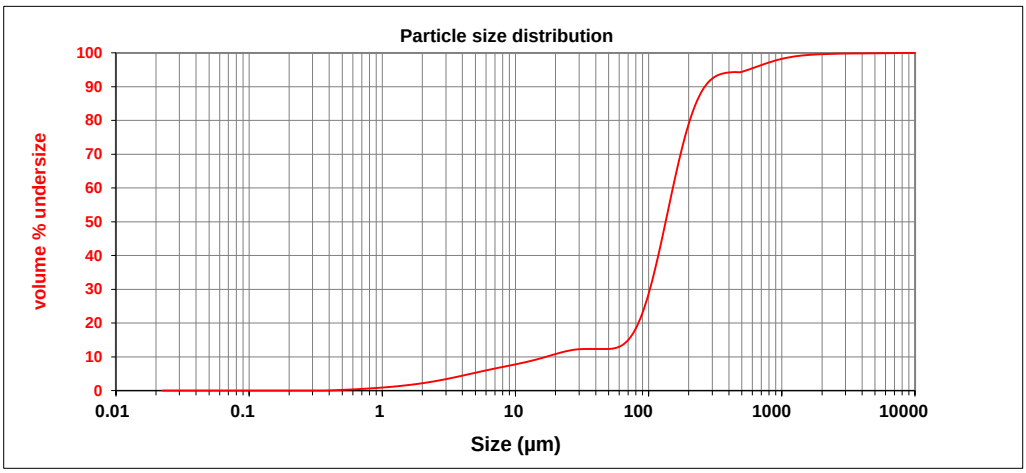
microanalysis australia

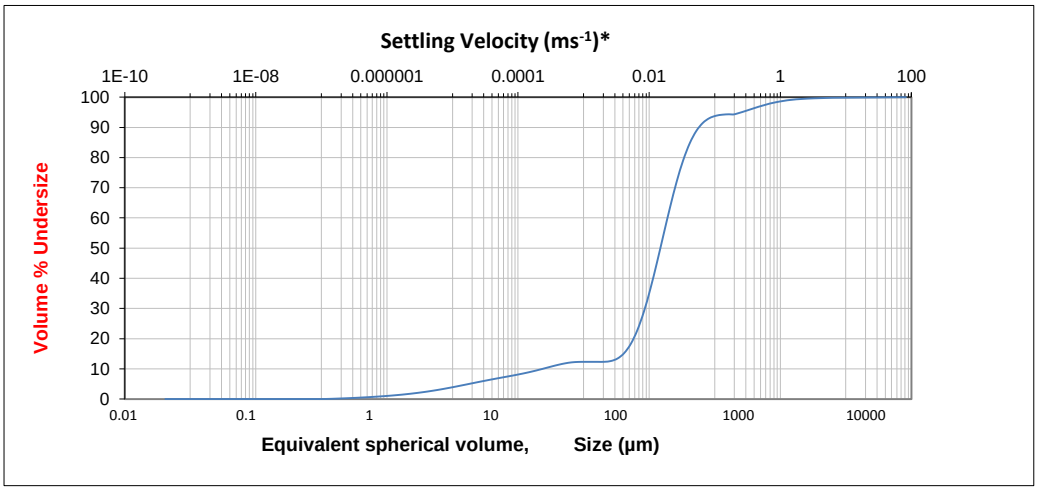
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	31/08/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	01/10/2020
Client ID:	249261-4	**Date reported:**	02/10/2020
Batch No :	20_1331		
Lab ID No :	20_1331_01		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	13 min sonication		

Span:	1.85	**Vol. Weighted mean D[4,3]:**	188.65 µm	**d(0.1)**	16.98 µm
		Surface weighted mean D[3,2]	21.81 µm	**d(0.5)**	134.22 µm
Volume % under 75um:	16.61%			**d(0.9)**	265.67 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.90	7.096	6.57	50.238	12.33	355.66	93.85
0.022	0.00	0.159	0.00	1.125	1.06	7.962	6.98	56.368	12.60	399.05	94.20
0.025	0.00	0.178	0.00	1.262	1.23	8.934	7.37	63.246	13.44	447.74	94.34
0.028	0.00	0.200	0.00	1.416	1.43	10.024	7.78	70.963	15.20	500.00	94.40
0.032	0.00	0.224	0.00	1.589	1.66	11.247	8.20	79.621	18.22	1000.00	98.25
0.036	0.00	0.252	0.00	1.783	1.90	12.619	8.65	89.337	22.76	2000.00	99.63
0.040	0.00	0.283	0.00	2.000	2.18	14.159	9.14	100.237	28.89	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	2.48	15.887	9.68	112.468	36.49		
0.050	0.00	0.356	0.00	2.518	2.82	17.825	10.25	126.191	45.19		
0.056	0.00	0.399	0.05	2.825	3.18	20.000	10.82	141.589	54.42		
0.063	0.00	0.448	0.12	3.170	3.57	22.440	11.36	158.866	63.54		
0.071	0.00	0.502	0.20	3.557	3.98	25.179	11.82	178.250	71.92		
0.080	0.00	0.564	0.29	3.991	4.41	28.251	12.15	200.000	79.07		
0.089	0.00	0.632	0.39	4.477	4.85	31.698	12.29	224.404	84.71		
0.100	0.00	0.710	0.50	5.024	5.30	35.566	12.32	251.785	88.79		
0.112	0.00	0.796	0.62	5.637	5.73	39.905	12.32	282.508	91.47		
0.126	0.00	0.893	0.75	6.325	6.16	44.774	12.32	316.979	93.04		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

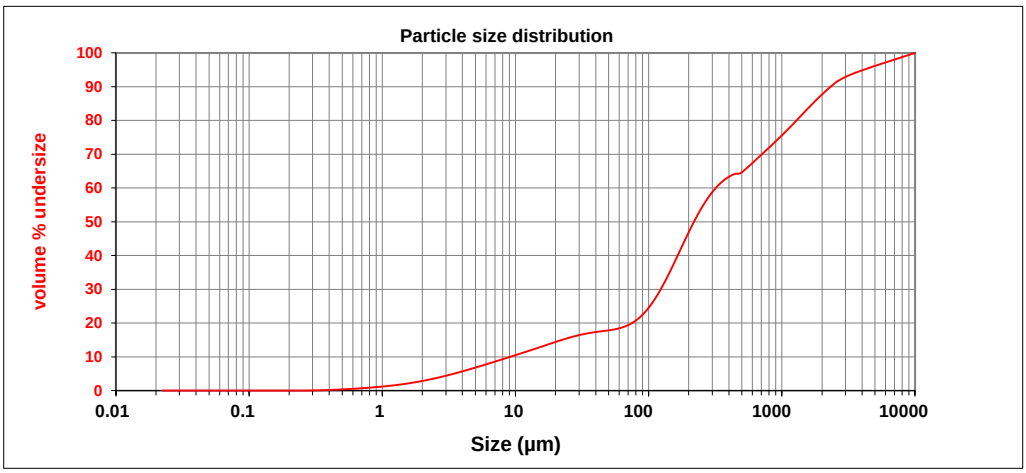
microanalysis australia

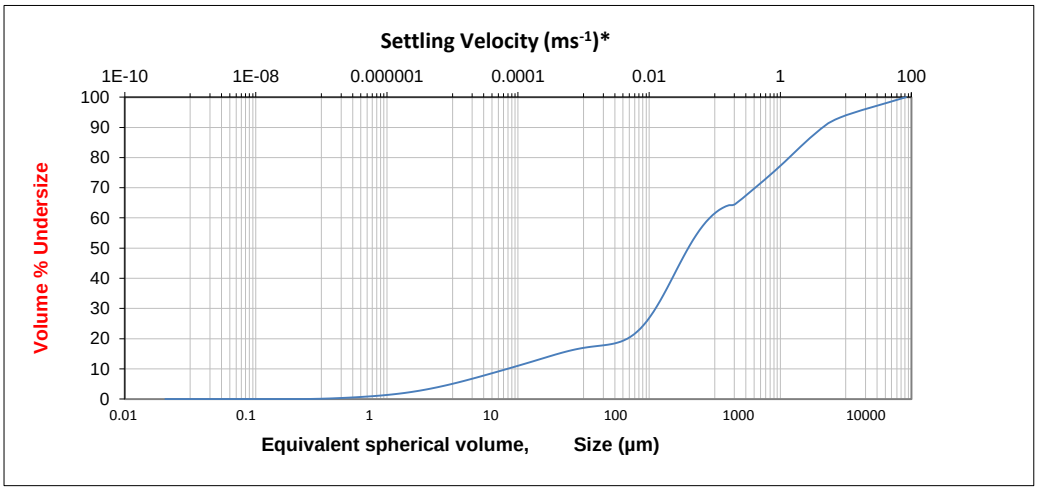
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	31/08/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	1/09/2020
Client ID:	249261-24	**Date reported:**	2/09/2020
Batch No :	20_1331		
Lab ID No :	20_1331_06		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	11 min sonication		

Span:	11.27	**Vol. Weighted mean D[4,3]:**	857.44 µm	**d(0.1)**	9.14 µm
		Surface weighted mean D[3,2]	16.22 µm	**d(0.5)**	219.09 µm
Volume % under 75um:	20.04%			**d(0.9)**	2478.97 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	1.19	7.096	8.64	50.238	17.84	355.66	61.84
0.022	0.00	0.159	0.00	1.125	1.39	7.962	9.26	56.368	18.18	399.05	63.29
0.025	0.00	0.178	0.00	1.262	1.61	8.934	9.88	63.246	18.69	447.74	64.22
0.028	0.00	0.200	0.00	1.416	1.87	10.024	10.51	70.963	19.48	500.00	64.62
0.032	0.00	0.224	0.00	1.589	2.16	11.247	11.14	79.621	20.67	1000.00	75.59
0.036	0.00	0.252	0.00	1.783	2.49	12.619	11.78	89.337	22.36	2000.00	87.67
0.040	0.00	0.283	0.01	2.000	2.85	14.159	12.43	100.237	24.59	3150.00	93.26
0.045	0.00	0.317	0.06	2.244	3.24	15.887	13.08	112.468	27.40	10000.00	100.00
0.050	0.00	0.356	0.11	2.518	3.67	17.825	13.74	126.191	30.75		
0.056	0.00	0.399	0.18	2.825	4.13	20.000	14.40	141.589	34.53		
0.063	0.00	0.448	0.26	3.170	4.62	22.440	15.03	158.866	38.61		
0.071	0.00	0.502	0.35	3.557	5.14	25.179	15.63	178.250	42.81		
0.080	0.00	0.564	0.46	3.991	5.68	28.251	16.17	200.000	46.95		
0.089	0.00	0.632	0.58	4.477	6.25	31.698	16.63	224.404	50.85		
0.100	0.00	0.710	0.71	5.024	6.83	35.566	17.02	251.785	54.36		
0.112	0.00	0.796	0.85	5.637	7.42	39.905	17.32	282.508	57.38		
0.126	0.00	0.893	1.01	6.325	8.03	44.774	17.58	316.979	59.88		

Note: Data from 500µm to 3150µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

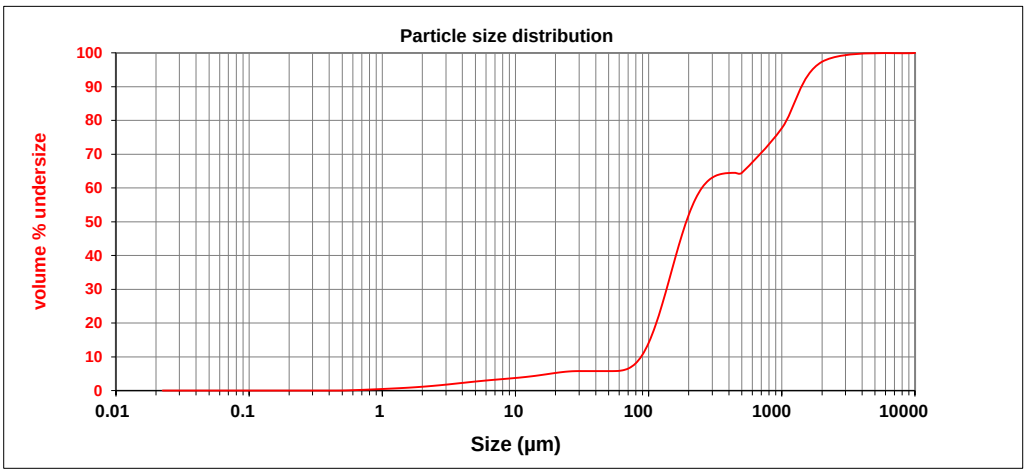
microanalysis australia

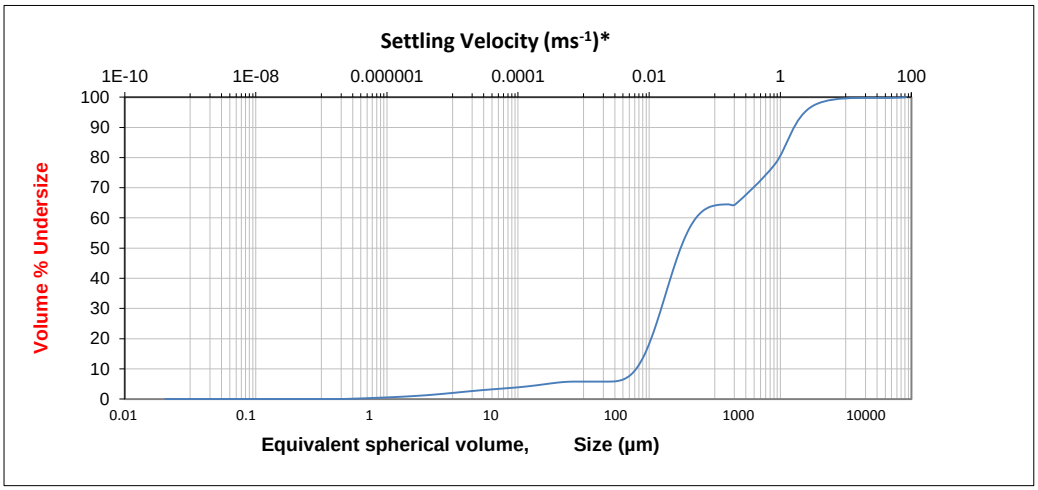
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	31/08/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	01/10/2020
Client ID:	249261-8	**Date reported:**	02/10/2020
Batch No :	20_1331		
Lab ID No :	20_1331_02		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	8 min sonication		

Span:	8.00	**Vol. Weighted mean D[4,3]:**	582.41 µm	**d(0.1)**	87.41 µm
		Surface weighted mean D[3,2]	42.46 µm	**d(0.5)**	192.18 µm
Volume % under 75um:	7.27%			**d(0.9)**	1624.56 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.46	7.096	3.23	50.238	5.77	355.66	64.19
0.022	0.00	0.159	0.00	1.125	0.56	7.962	3.40	56.368	5.78	399.05	64.43
0.025	0.00	0.178	0.00	1.262	0.65	8.934	3.56	63.246	5.97	447.74	64.49
0.028	0.00	0.200	0.00	1.416	0.75	10.024	3.73	70.963	6.61	500.00	64.49
0.032	0.00	0.224	0.00	1.589	0.87	11.247	3.92	79.621	8.02	1000.00	77.74
0.036	0.00	0.252	0.00	1.783	0.99	12.619	4.14	89.337	10.49	2000.00	97.37
0.040	0.00	0.283	0.00	2.000	1.13	14.159	4.38	100.237	14.24	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	1.29	15.887	4.65	112.468	19.31		
0.050	0.00	0.356	0.00	2.518	1.46	17.825	4.94	126.191	25.51		
0.056	0.00	0.399	0.00	2.825	1.65	20.000	5.22	141.589	32.43		
0.063	0.00	0.448	0.00	3.170	1.85	22.440	5.47	158.866	39.54		
0.071	0.00	0.502	0.01	3.557	2.06	25.179	5.66	178.250	46.26		
0.080	0.00	0.564	0.07	3.991	2.27	28.251	5.76	200.000	52.10		
0.089	0.00	0.632	0.14	4.477	2.48	31.698	5.77	224.404	56.74		
0.100	0.00	0.710	0.21	5.024	2.68	35.566	5.77	251.785	60.12		
0.112	0.00	0.796	0.29	5.637	2.88	39.905	5.77	282.508	62.31		
0.126	0.00	0.893	0.38	6.325	3.06	44.774	5.77	316.979	63.58		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

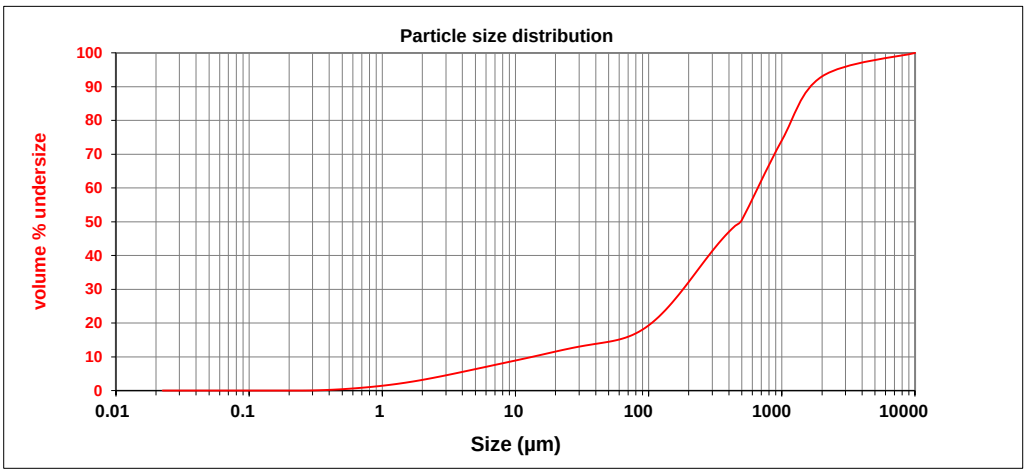
microanalysis australia

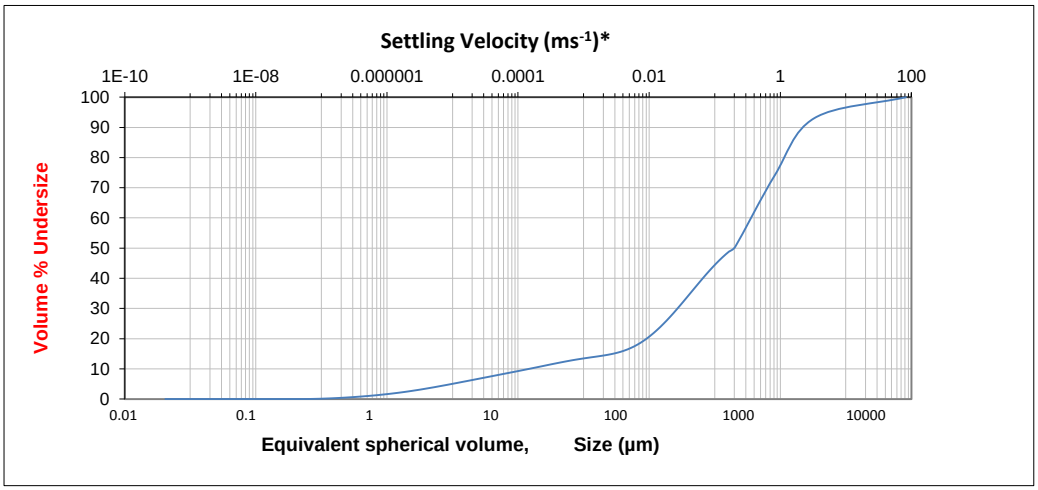
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	31/08/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	01/10/2020
Client ID:	249261-12	**Date reported:**	02/10/2020
Batch No :	20_1331		
Lab ID No :	20_1331_03		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	10 min sonication		

Span:	3.77	**Vol. Weighted mean D[4,3]:**	828.14 µm	**d(0.1)**	13.41 µm
		Surface weighted mean D[3,2]	17.68 µm	**d(0.5)**	484.45 µm
Volume % under 75um:	16.43%			**d(0.9)**	1839.34 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	1.43	7.096	7.64	50.238	14.46	355.66	44.82
0.022	0.00	0.159	0.00	1.125	1.67	7.962	8.07	56.368	14.86	399.05	46.96
0.025	0.00	0.178	0.00	1.262	1.92	8.934	8.49	63.246	15.36	447.74	48.86
0.028	0.00	0.200	0.00	1.416	2.20	10.024	8.91	70.963	16.03	500.00	50.48
0.032	0.00	0.224	0.00	1.589	2.50	11.247	9.34	79.621	16.89	1000.00	74.14
0.036	0.00	0.252	0.00	1.783	2.82	12.619	9.77	89.337	17.99	2000.00	93.03
0.040	0.00	0.283	0.02	2.000	3.17	14.159	10.21	100.237	19.35	10000.00	100.00
0.045	0.00	0.317	0.06	2.244	3.53	15.887	10.66	112.468	20.97		
0.050	0.00	0.356	0.12	2.518	3.91	17.825	11.11	126.191	22.84		
0.056	0.00	0.399	0.20	2.825	4.30	20.000	11.55	141.589	24.93		
0.063	0.00	0.448	0.30	3.170	4.70	22.440	11.99	158.866	27.21		
0.071	0.00	0.502	0.41	3.557	5.11	25.179	12.41	178.250	29.65		
0.080	0.00	0.564	0.54	3.991	5.53	28.251	12.81	200.000	32.20		
0.089	0.00	0.632	0.69	4.477	5.95	31.698	13.18	224.404	34.81		
0.100	0.00	0.710	0.85	5.024	6.37	35.566	13.51	251.785	37.43		
0.112	0.00	0.796	1.03	5.637	6.80	39.905	13.83	282.508	40.00		
0.126	0.00	0.893	1.22	6.325	7.22	44.774	14.13	316.979	42.49		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

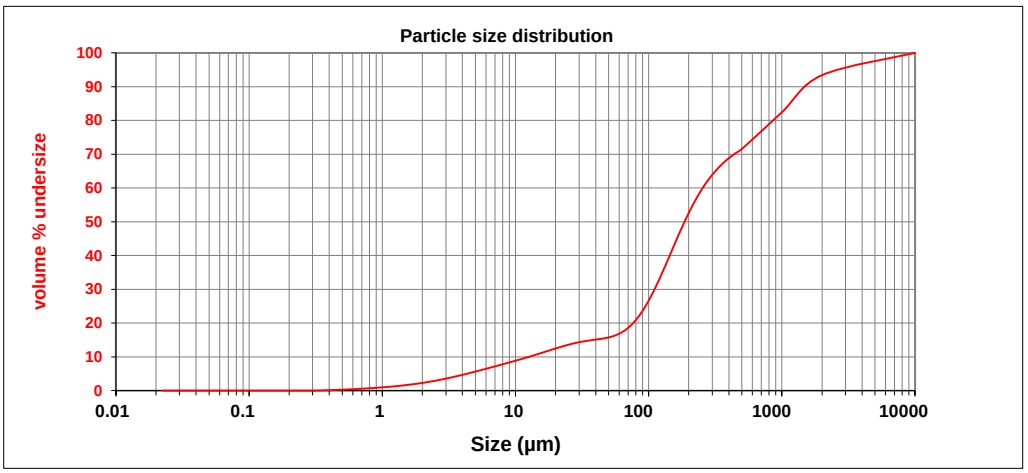
microanalysis australia

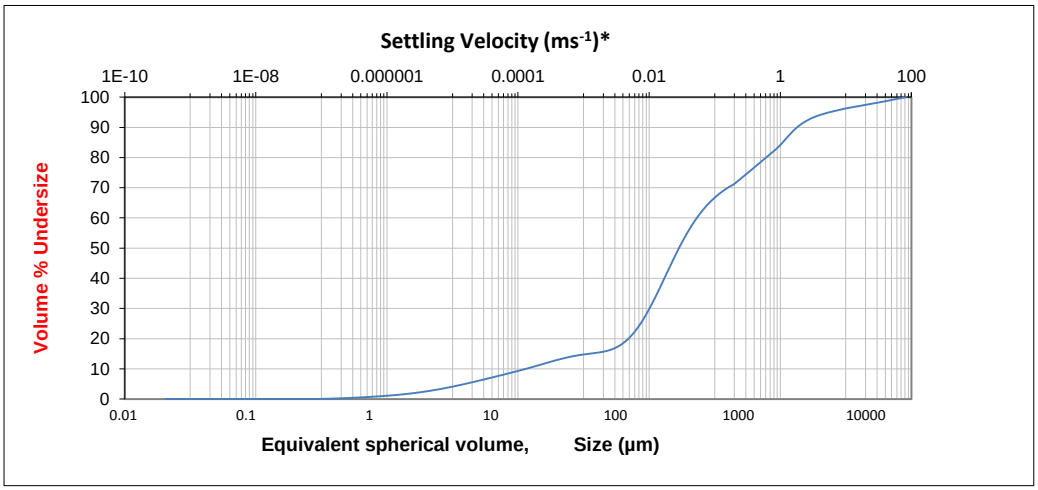
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	31/08/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	01/10/2020
Client ID:	249261-16	**Date reported:**	02/10/2020
Batch No :	20_1331		
Lab ID No :	20_1331_04		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	9 min sonication		

Span:	9.00	**Vol. Weighted mean D[4,3]:**	631.66 µm	**d(0.1)**	12.63 µm
		Surface weighted mean D[3,2]	20.67 µm	**d(0.5)**	186.35 µm
Volume % under 75um:	19.70%			**d(0.9)**	1689.34 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.95	7.096	7.22	50.238	15.76	355.66	67.06
0.022	0.00	0.159	0.00	1.125	1.11	7.962	7.76	56.368	16.37	399.05	68.80
0.025	0.00	0.178	0.00	1.262	1.29	8.934	8.30	63.246	17.32	447.74	70.28
0.028	0.00	0.200	0.00	1.416	1.50	10.024	8.85	70.963	18.76	500.00	71.53
0.032	0.00	0.224	0.00	1.589	1.73	11.247	9.42	79.621	20.77	1000.00	82.44
0.036	0.00	0.252	0.00	1.783	1.98	12.619	10.00	89.337	23.42	2000.00	93.41
0.040	0.00	0.283	0.00	2.000	2.27	14.159	10.60	100.237	26.71	10000.00	100.00
0.045	0.00	0.317	0.01	2.244	2.59	15.887	11.22	112.468	30.56		
0.050	0.00	0.356	0.06	2.518	2.94	17.825	11.84	126.191	34.84		
0.056	0.00	0.399	0.11	2.825	3.33	20.000	12.47	141.589	39.38		
0.063	0.00	0.448	0.18	3.170	3.74	22.440	13.07	158.866	43.97		
0.071	0.00	0.502	0.26	3.557	4.18	25.179	13.61	178.250	48.44		
0.080	0.00	0.564	0.35	3.991	4.65	28.251	14.09	200.000	52.63		
0.089	0.00	0.632	0.45	4.477	5.14	31.698	14.49	224.404	56.41		
0.100	0.00	0.710	0.56	5.024	5.64	35.566	14.81	251.785	59.73		
0.112	0.00	0.796	0.68	5.637	6.16	39.905	15.09	282.508	62.59		
0.126	0.00	0.893	0.81	6.325	6.69	44.774	15.37	316.979	65.02		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

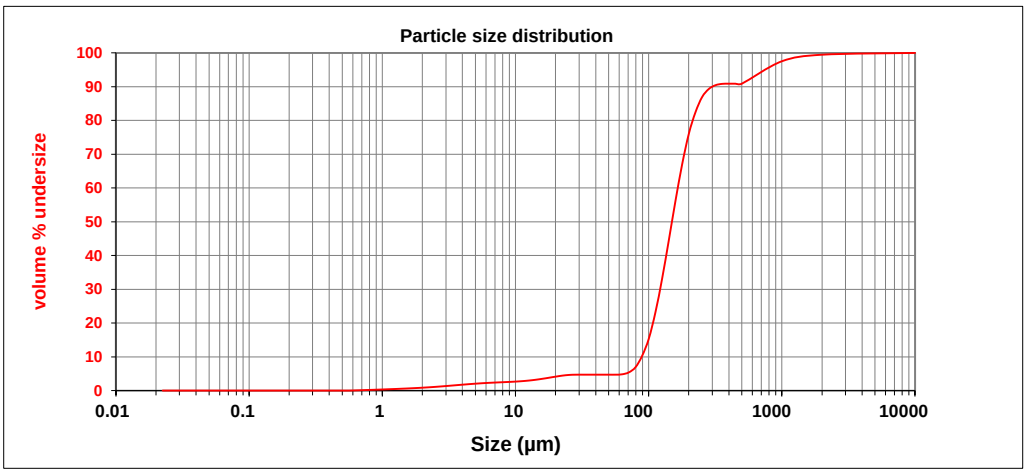
microanalysis australia

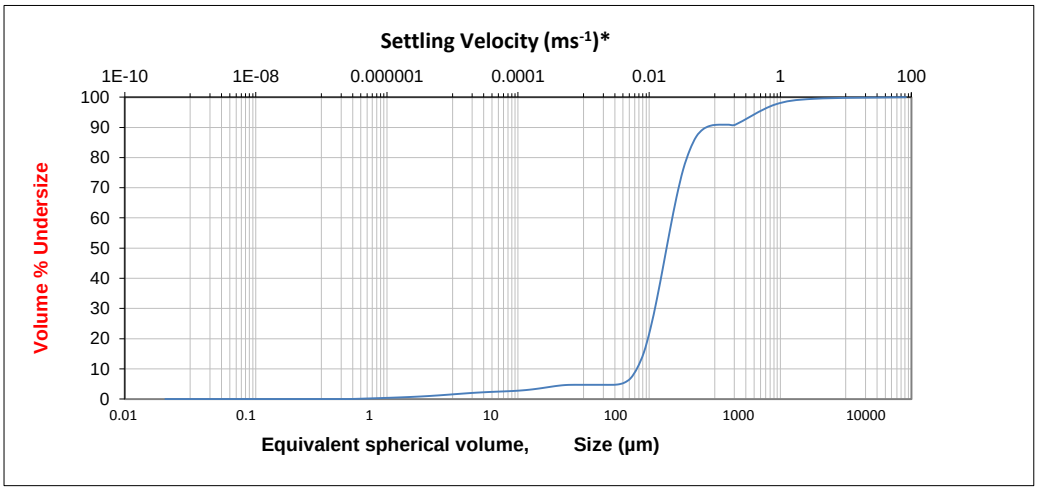
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	31/08/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	01/10/2020
Client ID:	249261-20	**Date reported:**	02/10/2020
Batch No :	20_1331		
Lab ID No :	20_1331_05		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	11 min sonication		

Span:	1.44	**Vol. Weighted mean D[4,3]:**	231.45 µm	**d(0.1)**	88.46 µm
		Surface weighted mean D[3,2]	49.30 µm	**d(0.5)**	149.72 µm
Volume % under 75um:	6.10%			**d(0.9)**	303.64 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.32	7.096	2.38	50.238	4.71	355.66	90.83
0.022	0.00	0.159	0.00	1.125	0.40	7.962	2.47	56.368	4.71	399.05	90.88
0.025	0.00	0.178	0.00	1.262	0.48	8.934	2.56	63.246	4.82	447.74	90.88
0.028	0.00	0.200	0.00	1.416	0.56	10.024	2.66	70.963	5.39	500.00	90.88
0.032	0.00	0.224	0.00	1.589	0.64	11.247	2.79	79.621	6.92	1000.00	97.53
0.036	0.00	0.252	0.00	1.783	0.74	12.619	2.97	89.337	10.31	2000.00	99.47
0.040	0.00	0.283	0.00	2.000	0.85	14.159	3.20	100.237	15.40	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	0.97	15.887	3.48	112.468	23.25		
0.050	0.00	0.356	0.00	2.518	1.11	17.825	3.80	126.191	33.20		
0.056	0.00	0.399	0.00	2.825	1.25	20.000	4.12	141.589	44.52		
0.063	0.00	0.448	0.00	3.170	1.41	22.440	4.42	158.866	56.17		
0.071	0.00	0.502	0.00	3.557	1.58	25.179	4.63	178.250	66.98		
0.080	0.00	0.564	0.00	3.991	1.74	28.251	4.70	200.000	76.02		
0.089	0.00	0.632	0.05	4.477	1.90	31.698	4.71	224.404	82.43		
0.100	0.00	0.710	0.12	5.024	2.04	35.566	4.71	251.785	86.94		
0.112	0.00	0.796	0.18	5.637	2.18	39.905	4.71	282.508	89.31		
0.126	0.00	0.893	0.25	6.325	2.29	44.774	4.71	316.979	90.43		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

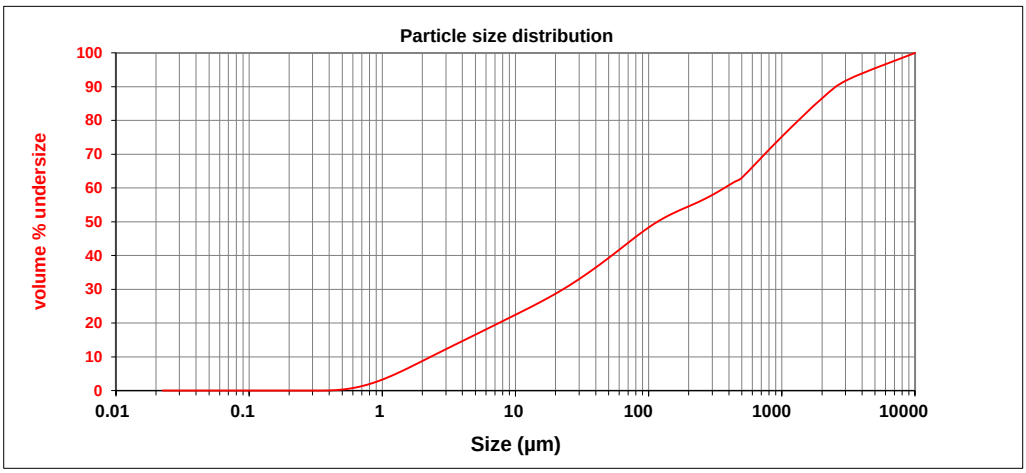
microanalysis australia

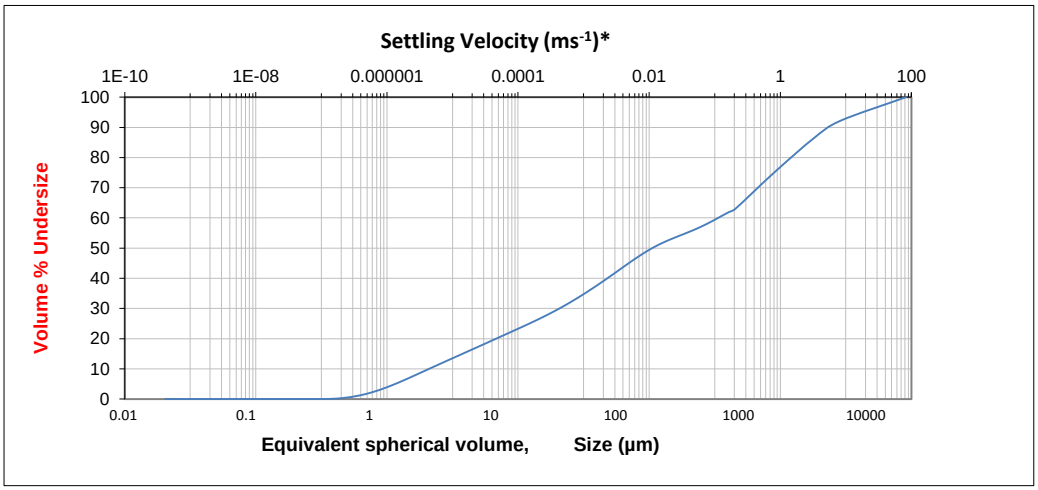
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	31/08/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	1/09/2020
Client ID:	249261-29	**Date reported:**	2/09/2020
Batch No :	20_1331		
Lab ID No :	20_1331_07		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	12 min sonication		

Span:	23.23	**Vol. Weighted mean D[4,3]:**	876.99 µm	**d(0.1)**	2.31 µm
		Surface weighted mean D[3,2]	7.09 µm	**d(0.5)**	116.64 µm
Volume % under 75um:	44.64%			**d(0.9)**	2711.76 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	3.26	7.096	19.54	50.238	39.34	355.66	59.61
0.022	0.00	0.159	0.00	1.125	4.06	7.962	20.52	56.368	40.85	399.05	60.79
0.025	0.00	0.178	0.00	1.262	4.93	8.934	21.50	63.246	42.39	447.74	61.95
0.028	0.00	0.200	0.00	1.416	5.84	10.024	22.48	70.963	43.93	500.00	63.00
0.032	0.00	0.224	0.00	1.589	6.80	11.247	23.47	79.621	45.46	1000.00	75.22
0.036	0.00	0.252	0.00	1.783	7.77	12.619	24.46	89.337	46.94	2000.00	86.53
0.040	0.00	0.283	0.00	2.000	8.76	14.159	25.48	100.237	48.34	3150.00	92.14
0.045	0.00	0.317	0.00	2.244	9.75	15.887	26.51	112.468	49.64	10000.00	100.00
0.050	0.00	0.356	0.00	2.518	10.74	17.825	27.59	126.191	50.82		
0.056	0.00	0.399	0.04	2.825	11.73	20.000	28.70	141.589	51.88		
0.063	0.00	0.448	0.13	3.170	12.71	22.440	29.86	158.866	52.83		
0.071	0.00	0.502	0.31	3.557	13.68	25.179	31.06	178.250	53.72		
0.080	0.00	0.564	0.56	3.991	14.65	28.251	32.32	200.000	54.58		
0.089	0.00	0.632	0.91	4.477	15.63	31.698	33.64	224.404	55.46		
0.100	0.00	0.710	1.36	5.024	16.60	35.566	35.00	251.785	56.38		
0.112	0.00	0.796	1.90	5.637	17.58	39.905	36.41	282.508	57.37		
0.126	0.00	0.893	2.54	6.325	18.56	44.774	37.85	316.979	58.45		

Note: Data from 500µm to 3150µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
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16-18 Hayden Court Myaree WA 6154
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lab@mpl.com.au
www.mpl.com.au

CERTIFICATE OF ANALYSIS 249438

Client Details

Client	Department for Environment and Water (SA)
Attention	Joe Pedicini
Address	81-95 Waymouth Street, ADELAIDE, SA, 5001

Sample Details

Your Reference	**Port Stanvac Sediment Sampling- 20085.02**
Number of Samples	27 Sediment and 1 Water
Date samples received	01/09/2020
Date completed instructions received	01/09/2020

Analysis Details

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

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

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

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

Report Details

Date results requested by	16/09/2020
Date of Issue	29/09/2020

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

Results Approved By
Heram Halim, Operations Manager
Michael Kubiak, Laboratory Manager
Travis Carey, Organics - Team Leader

Authorised By

Michael Kubiak, Laboratory Manager

Metals in sediment						
Our Reference		249438-1	249438-7	249438-13	249438-19	249438-22
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.1-0.2	0.1-02	0.1-0.2	0.03-0.13	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date digested	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Aluminium	mg/kg	450	2,400	1,300	1,400	260
Antimony	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic	mg/kg	4.0	28	4.9	5.9	3.1
Cadmium	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	mg/kg	2.5	11	5.3	5.4	1.9
Cobalt	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Copper	mg/kg	<0.5	1.1	0.8	0.7	<0.5
Iron	mg/kg	2,100	11,000	3,300	3,500	1,300
Lead	mg/kg	1.4	4.2	3.5	3.1	1.1
Manganese	mg/kg	17	51	34	37	11
Mercury	mg/kg	<0.01	0.06	0.01	0.01	<0.01
Nickel	mg/kg	0.6	1.6	1.3	1.2	<0.5
Selenium	mg/kg	<0.1	0.2	0.1	<0.1	<0.1
Silver	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	mg/kg	6.3	40	9.0	10	4.3
Zinc	mg/kg	2.6	5.3	5.7	4.6	5.4

TRH in Sediment (C6-C9) + BTEX						
Our Reference		249438-1	249438-7	249438-13	249438-19	249438-22
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.1-0.2	0.1-02	0.1-0.2	0.03-0.13	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
m+p-xylene	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
o-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Xylenes (total)	mg/kg	<0.6	<0.6	<0.6	<0.6	<0.6
Surrogate aaa-Trifluorotoluene	%	89	85	81	79	88

sTRH in Sediment (C10-C36)						
Our Reference		249438-1	249438-7	249438-13	249438-19	249438-22
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.1-0.2	0.1-02	0.1-0.2	0.03-0.13	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	04/09/2020	04/09/2020	05/09/2020	05/09/2020	05/09/2020
TRH C_{10} - C_{14}	mg/kg	<25	<25	<25	<25	<25
TRH C_{15} - C_{28}	mg/kg	<25	<25	<25	<25	<25
TRH C_{29} - C_{36}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (C10-C36)	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} - C_{16}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{16} - C_{34}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{34} - C_{40}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (>C10-C40)	mg/kg	<100	<100	<100	<100	<100

VHC's in soil						
Our Reference		249438-1	249438-7	249438-13	249438-19	249438-22
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.1-0.2	0.1-02	0.1-0.2	0.03-0.13	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
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
Carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
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
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
Bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		249438-1	249438-7	249438-13	249438-19	249438-22
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.1-0.2	0.1-02	0.1-0.2	0.03-0.13	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Bromobenzene	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-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	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	103	101	100	100
Surrogate aaa-Trifluorotoluene	%	94	90	86	83	93
Surrogate Toluene-d_8	%	99	98	98	97	99
Surrogate 4-Bromofluorobenz	%	97	96	95	95	96

PAHs in Sediment (NAGD)						
Our Reference		249438-1	249438-7	249438-13	249438-19	249438-22
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.1-0.2	0.1-02	0.1-0.2	0.03-0.13	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	06/09/2020	06/09/2020	06/09/2020	06/09/2020	06/09/2020
Naphthalene	µg/kg	<5	<5	<5	<5	<5
2-Methylnaphthalene	µg/kg	<5	<5	<5	<5	<5
Acenaphthylene	µg/kg	<5	<5	<5	<5	<5
Acenaphthene	µg/kg	<5	<5	<5	<5	<5
Fluorene	µg/kg	<5	<5	<5	<5	<5
Phenanthrene	µg/kg	<5	6	<5	<5	<5
Anthracene	µg/kg	<5	<5	<5	<5	<5
Fluoranthene	µg/kg	<5	14	<5	<5	<5
Pyrene	µg/kg	<5	12	<5	<5	<5
Benzo(a)anthracene	µg/kg	<5	15	<5	<5	<5
Chrysene	µg/kg	<5	18	<5	<5	<5
Benzo(b,j+k)fluoranthene	µg/kg	<10	99	<10	<10	<10
Benzo(e)pyrene	µg/kg	<5	21	<5	<5	<5
Benzo(a)pyrene	µg/kg	<5	25	<5	<5	<5
Perylene	µg/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	µg/kg	<5	26	<5	<5	<5
Dibenzo(a,h)anthracene	µg/kg	<5	17	<5	<5	<5
Benzo(g,h,i)perylene	µg/kg	<5	19	<5	<5	<5
Coronene	µg/kg	<5	10	<5	<5	<5
Surrogate p-Terphenyl-D_{14}	%	89	79	75	79	83

Speciated Phenols in Soil						
Our Reference		249438-1	249438-7	249438-13	249438-19	249438-22
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.1-0.2	0.1-02	0.1-0.2	0.03-0.13	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	06/09/2020	06/09/2020	06/09/2020	06/09/2020	06/09/2020
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,6-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
Pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	80	66	62	66	63
Surrogate 2-fluorophenol	%	74	63	64	61	61

SVCH's in Soil						
Our Reference		249438-1	249438-7	249438-13	249438-19	249438-22
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.1-0.2	0.1-02	0.1-0.2	0.03-0.13	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	06/09/2020	06/09/2020	06/09/2020	06/09/2020	06/09/2020
1,3-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	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
1,3,5-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,4-Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	<2	<2	<2	<2	<2
Hexachlorobutadiene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-D_{14}	%	89	79	75	79	83

Nutrients in Soil						
Our Reference		249438-1	249438-7	249438-13	249438-19	249438-22
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.1-0.2	0.1-02	0.1-0.2	0.03-0.13	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Total Nitrogen	mg/kg	92	210	180	240	52
Total Kjeldahl Nitrogen	mg/kg	92	210	180	240	52
NOx as N (1:5 soil:water)	mg/kg	0.21	<0.1	<0.1	0.19	0.26
Nitrate-N	mg/kg	0.19	<0.1	<0.1	0.13	0.23
Nitrite-N	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia as N (1:5 KCl extract)	mg/kg	4.1	3.3	3.2	14	4.1
Total Phosphorus	mg/kg	110	470	170	200	58
Organic N	mg/kg	88	210	180	220	48
Phosphate as P	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Miscellaneous Inorg - soil						
Our Reference		249438-1	249438-3	249438-7	249438-9	249438-13
Your Reference	UNITS	SS17-1	SS17	SS18-1	SS18	SS21-1
Depth		0.1-0.2	0.4-0.6	0.1-02	comp	0.1-0.2
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	04/09/2020	04/09/2020	04/09/2020	04/09/2020	04/09/2020
Date analysed	-	04/09/2020	04/09/2020	04/09/2020	04/09/2020	04/09/2020
pH	pH Units	8.2	[NA]	8.3	[NA]	8.1
Bulk Density*	g/cm3	[NA]	1.49	[NA]	1.22	[NA]

Miscellaneous Inorg - soil					
Our Reference		249438-15	249438-19	249438-22	249438-24
Your Reference	UNITS	SS21	SS23	SS30-1	SS30
Depth		0.5-0.7	0.03-0.13	0.1-0.2	0.4-0.6
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment
Date prepared	-	04/09/2020	04/09/2020	04/09/2020	04/09/2020
Date analysed	-	04/09/2020	04/09/2020	04/09/2020	04/09/2020
pH	pH Units	[NA]	8.1	8.3	[NA]
Bulk Density*	g/cm3	1.33	[NA]	[NA]	1.42

PFAS in Soil Extended						
Our Reference		249438-2	249438-8	249438-14	249438-20	249438-23
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.2-0.3	0.2-0.3	0.2-0.3	0.13-0.23	0.2-0.3
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ PFOS	%	101	96	103	99	96
Surrogate $^{13}C_2$ PFOA	%	99	98	95	100	94
Extracted ISTD $^{13}C_3$ *PFBS*	%	97	91	89	83	92
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	84	82	82	85
Extracted ISTD $^{13}C_4$ *PFOS*	%	87	88	87	81	91

PFAS in Soil Extended						
Our Reference		249438-2	249438-8	249438-14	249438-20	249438-23
Your Reference	UNITS	SS17-1	SS18-1	SS21-1	SS23	SS30-1
Depth		0.2-0.3	0.2-0.3	0.2-0.3	0.13-0.23	0.2-0.3
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Extracted ISTD 13C4 PFBA	%	85	80	80	76	81
Extracted ISTD $^{13}C_3$ PFPeA	%	89	86	82	79	86
Extracted ISTD $^{13}C_2$ PFHxA	%	89	84	86	83	88
Extracted ISTD $^{13}C_4$ PFHpA	%	88	82	86	81	88
Extracted ISTD $^{13}C_4$ PFOA	%	87	80	85	79	88
Extracted ISTD $^{13}C_5$ PFNA	%	89	87	90	85	90
Extracted ISTD $^{13}C_2$ PFDA	%	89	85	89	85	88
Extracted ISTD $^{13}C_2$ PFUnDA	%	93	91	92	84	85
Extracted ISTD $^{13}C_2$ PFDoDA	%	85	83	95	90	83
Extracted ISTD $^{13}C_2$ PFTeDA	%	86	69	68	82	68
Extracted ISTD $^{13}C_2$ 4:2FTS	%	90	87	87	83	84
Extracted ISTD $^{13}C_2$ 6:2FTS	%	81	76	76	76	85
Extracted ISTD $^{13}C_2$ 8:2FTS	%	72	76	86	87	93
Extracted ISTD $^{13}C_8$ FOSA	%	87	82	79	78	81
Extracted ISTD d_3 N MeFOSA	%	87	73	75	73	77
Extracted ISTD d_5 N EtFOSA	%	89	70	71	69	80
Extracted ISTD d_7 N MeFOSE	%	88	78	86	82	82
Extracted ISTD d_9 N EtFOSE	%	88	81	80	79	77
Extracted ISTD d_3 N MeFOSAA	%	88	80	90	83	92
Extracted ISTD d_5 N EtFOSAA	%	96	85	91	86	89
Total Positive PFHxS & PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1

Moisture						
Our Reference		249438-1	249438-2	249438-8	249438-13	249438-14
Your Reference	UNITS	SS17-1	SS17-1	SS18-1	SS21-1	SS21-1
Depth		0.1-0.2	0.2-0.3	0.2-0.3	0.1-0.2	0.2-0.3
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020	03/09/2020	03/09/2020	03/09/2020
Moisture	%	10	12	23	13	20

Moisture			
Our Reference		249438-20	249438-23
Your Reference	UNITS	SS23	SS30-1
Depth		0.13-0.23	0.2-0.3
Date Sampled		28/08/2020	28/08/2020
Type of sample		Sediment	Sediment
Date prepared	-	03/09/2020	03/09/2020
Date analysed	-	03/09/2020	03/09/2020
Moisture	%	27	14

External Testing						
Our Reference		249438-1	249438-4	249438-10	249438-13	249438-16
Your Reference	UNITS	SS17-1	SS17	SS18	SS21-1	SS21
Depth		0.1-0.2	comp	comp	0.1-0.2	comp
Date Sampled		28/08/2020	28/08/2020	28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
MicroAnalysis ID		[NA]	See attached	See attached	[NA]	See attached
$CaCO_3$ Content by XRF		#	[NA]	[NA]	#	[NA]

External Testing				
Our Reference		249438-21	249438-22	249438-25
Your Reference	UNITS	SS23	SS30-1	SS30
Depth		comp	0.1-0.2	comp
Date Sampled		28/08/2020	28/08/2020	28/08/2020
Type of sample		Sediment	Sediment	Sediment
MicroAnalysis ID		See attached	[NA]	See attached
$CaCO_3$ Content by XRF		[NA]	#	[NA]

vTRH(C6-C10)/MBTEXN in water		
Our Reference		249438-28
Your Reference	UNITS	TB
Depth		-
Date Sampled		28/08/2020
Type of sample		Water
Date analysed	-	03/09/2020
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6-C_{10} less BTEX (F1)	µg/L	<10
MTBE	µg/L	<1
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	103
Surrogate toluene-d8	%	97
Surrogate 4-BFB	%	97

Method ID	Methodology Summary
AGRI-001	Plant available Sulphur is determined by extraction with 0.25 M Potassium Chloride at 40°C for 3 hours. The resultant extract is then analysed by ICPAES.
Ext-059	Analysed by Microanalysis Australia.
EXT-091	Analysed by Greencap in-house method LOP-005 X-Ray Diffraction
INORG series	Determination of constituents in waters using colourimetric chemistry
INORG-001	pH - Measured using pH meter and electrode base on APHA latest edition, Method 4500-H+. Please note that the results for water analyses may be indicative only, as analysis can be completed outside of the APHA recommended holding times. Soils are reported from a 1:5 water extract unless otherwise specified.
INORG-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
INORG-055	Nitrite - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	Nitrate - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	NOx - determined colourimetrically. Soils are analysed from a water extract.
INORG-057	Ammonia by colourimetric analysis based on APHA latest edition 4500-NH3 F.
INORG-060	Phosphate- determined colourimetrically. Soils are analysed from a water extract.
INORG-062	TKN - determined colourimetrically based on APHA latest edition Norg C.
METALS-020	Determination of various metals by ICP-AES.
METALS-021	Determination of Mercury by Cold Vapour AAS. For urine samples total Mercury is determined, however, mercury in urine is almost entirely in the inorganic form (CDC).
METALS-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
ORG-023	VOC's in soil by methanolic extraction and water directly by purge and trap GC-MS.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated after SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: Metals in sediment						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			08/09/2020	7	08/09/2020	08/09/2020		08/09/2020	[NT]
Date analysed	-			08/09/2020	7	08/09/2020	08/09/2020		08/09/2020	[NT]
Aluminium	mg/kg	1	METALS-020	<1	7	2400	2900	19	89	[NT]
Antimony	mg/kg	0.5	METALS-022	<0.5	7	<0.5	<0.5	0	111	[NT]
Arsenic	mg/kg	0.5	METALS-022	<0.5	7	28	31	10	93	[NT]
Cadmium	mg/kg	0.1	METALS-022	<0.1	7	<0.1	<0.1	0	99	[NT]
Chromium	mg/kg	0.5	METALS-022	<0.5	7	11	11	0	102	[NT]
Cobalt	mg/kg	0.5	METALS-022	<0.5	7	0.6	0.5	18	104	[NT]
Copper	mg/kg	0.5	METALS-022	<0.5	7	1.1	0.9	20	100	[NT]
Iron	mg/kg	1	METALS-020	<1	7	11000	10000	10	91	[NT]
Lead	mg/kg	0.5	METALS-022	<0.5	7	4.2	3.8	10	102	[NT]
Manganese	mg/kg	1	METALS-022	<1	7	51	48	6	100	[NT]
Mercury	mg/kg	0.01	METALS-021	<0.01	7	0.06	0.04	40	96	[NT]
Nickel	mg/kg	0.5	METALS-022	<0.5	7	1.6	1.4	13	98	[NT]
Selenium	mg/kg	0.1	METALS-022	<0.1	7	0.2	0.2	0	107	[NT]
Silver	mg/kg	0.1	METALS-022	<0.1	7	<0.1	<0.1	0	97	[NT]
Vanadium	mg/kg	0.5	METALS-022	<0.5	7	40	37	8	104	[NT]
Zinc	mg/kg	0.5	METALS-022	<0.5	7	5.3	5.4	2	96	[NT]

QUALITY CONTROL: TRH in Sediment (C6-C9) + BTEX						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			03/09/2020	7	03/09/2020	03/09/2020		03/09/2020	[NT]
Date analysed	-			03/09/2020	7	03/09/2020	03/09/2020		03/09/2020	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	7	<25	<25	0	85	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	7	<25	<25	0	84	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	7	<0.2	<0.2	0	85	[NT]
Toluene	mg/kg	0.2	Org-023	<0.2	7	<0.2	<0.2	0	89	[NT]
Ethylbenzene	mg/kg	0.2	Org-023	<0.2	7	<0.2	<0.2	0	82	[NT]
m+p-xylene	mg/kg	0.4	Org-023	<0.4	7	<0.4	<0.4	0	84	[NT]
o-xylene	mg/kg	0.2	Org-023	<0.2	7	<0.2	<0.2	0	82	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	92	7	85	82	4	71	[NT]

QUALITY CONTROL: sTRH in Sediment (C10-C36)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			03/09/2020	7	03/09/2020	03/09/2020		03/09/2020	[NT]
Date analysed	-			03/09/2020	7	04/09/2020	05/09/2020		04/09/2020	[NT]
TRH C_{10} - C_{14}	mg/kg	25	Org-020	<25	7	<25	<25	0	81	[NT]
TRH C_{15} - C_{28}	mg/kg	25	Org-020	<25	7	<25	<25	0	97	[NT]
TRH C_{29} - C_{36}	mg/kg	25	Org-020	<25	7	<25	<25	0	75	[NT]
TRH >C_{10} - C_{16}	mg/kg	25	Org-020	<25	7	<25	<25	0	90	[NT]
TRH >C_{16} - C_{34}	mg/kg	25	Org-020	<25	7	<25	<25	0	92	[NT]
TRH >C_{34} - C_{40}	mg/kg	25	Org-020	<25	7	<25	<25	0	109	[NT]

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			03/09/2020	7	03/09/2020	03/09/2020		03/09/2020	[NT]
Date analysed	-			03/09/2020	7	03/09/2020	03/09/2020		03/09/2020	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	7	<1	<1	0	109	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Bromochloromethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Chloroform	mg/kg	1	Org-023	<1	7	<1	<1	0	111	[NT]
2,2-dichloropropane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	7	<1	<1	0	111	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,1-dichloropropene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Dibromomethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Trichloroethene	mg/kg	1	Org-023	<1	7	<1	<1	0	113	[NT]
Bromodichloromethane	mg/kg	1	Org-023	<1	7	<1	<1	0	111	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Dibromochloromethane	mg/kg	1	Org-023	<1	7	<1	<1	0	108	[NT]
1,2-dibromoethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Tetrachloroethene	mg/kg	1	Org-023	<1	7	<1	<1	0	116	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Chlorobenzene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Bromoform	mg/kg	1	Org-023	<1	7	<1	<1	0	103	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Bromobenzene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	7	<1	<1	0	106	[NT]

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	7	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		ORG-023	106	7	103	101	2	108	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	106	7	90	86	5	95	[NT]
Surrogate Toluene-d_8	%		ORG-023	97	7	98	98	0	99	[NT]
Surrogate 4-Bromofluorobenz	%		ORG-023	95	7	96	94	2	94	[NT]

QUALITY CONTROL: PAHs in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			03/09/2020	7	03/09/2020	03/09/2020		03/09/2020	[NT]
Date analysed	-			06/09/2020	7	06/09/2020	06/09/2020		06/09/2020	[NT]
Naphthalene	µg/kg	5	Org-022/025	<5	7	<5	<5	0	80	[NT]
2-Methylnaphthalene	µg/kg	5	Org-022/025	<5	7	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/kg	5	Org-022/025	<5	7	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/kg	5	Org-022/025	<5	7	<5	<5	0	[NT]	[NT]
Fluorene	µg/kg	5	Org-022/025	<5	7	<5	<5	0	83	[NT]
Phenanthrene	µg/kg	5	Org-022/025	<5	7	6	8	29	85	[NT]
Anthracene	µg/kg	5	Org-022/025	<5	7	<5	<5	0	[NT]	[NT]
Fluoranthene	µg/kg	5	Org-022/025	<5	7	14	21	40	83	[NT]
Pyrene	µg/kg	5	Org-022/025	<5	7	12	19	45	83	[NT]
Benzo(a)anthracene	µg/kg	5	Org-022/025	<5	7	15	15	0	[NT]	[NT]
Chrysene	µg/kg	5	Org-022/025	<5	7	18	14	25	107	[NT]
Benzo(b,j+k)fluoranthene	µg/kg	10	Org-022/025	<10	7	99	44	77	[NT]	[NT]
Benzo(e)pyrene	µg/kg	5	Org-022/025	<5	7	21	8	90	[NT]	[NT]
Benzo(a)pyrene	µg/kg	5	Org-022/025	<5	7	25	15	50	105	[NT]
Perylene	µg/kg	5	Org-022/025	<5	7	<5	<5	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/kg	5	Org-022/025	<5	7	26	11	81	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/kg	5	Org-022/025	<5	7	17	6	96	[NT]	[NT]
Benzo(g,h,i)perylene	µg/kg	5	Org-022/025	<5	7	19	8	81	[NT]	[NT]
Coronene	µg/kg	5	Org-022/025	<5	7	10	<5	67	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	92	7	79	81	2	83	[NT]

QUALITY CONTROL: Speciated Phenols in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			03/09/2020	7	03/09/2020	03/09/2020		03/09/2020	[NT]
Date analysed	-			06/09/2020	7	06/09/2020	06/09/2020		06/09/2020	[NT]
Phenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	93	[NT]
2-Chlorophenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	83	[NT]
4-Chloro-3-methylphenol	mg/kg	5	Org-022/025	<5	7	<5	<5	0	[NT]	[NT]
2-Methylphenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	82	[NT]
3/4-Methylphenol	mg/kg	0.4	Org-022/025	<0.4	7	<0.4	<0.4	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	81	[NT]
2,4,5-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	4	Org-022/025	<4	7	<4	<4	0	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022/025	<4	7	<4	<4	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.2	Org-022/025	<0.2	7	<0.2	<0.2	0	[NT]	[NT]
2-Methyl-4,6-dinitrophenol	mg/kg	10	Org-022/025	<10	7	<10	<10	0	[NT]	[NT]
Pentachlorophenol	mg/kg	5	Org-022/025	<5	7	<5	<5	0	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-022/025	93	7	66	86	26	102	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	79	7	63	73	15	86	[NT]

QUALITY CONTROL: SVCH's in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			03/09/2020	7	03/09/2020	03/09/2020		03/09/2020	[NT]
Date analysed	-			06/09/2020	7	06/09/2020	06/09/2020		06/09/2020	[NT]
1,3-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
1,4-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	82	[NT]
1,2-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
Hexachloroethane	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
1,2,3-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
1,2,4-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	76	[NT]
1,3,5-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
1,2,3,4-Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
Hexachlorocyclopentadiene	mg/kg	2	Org-022/025	<2	7	<2	<2	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
Pentachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
Hexachlorobenzene (HCB)	mg/kg	0.5	Org-022/025	<0.5	7	<0.5	<0.5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	92	7	79	81	2	83	[NT]

QUALITY CONTROL: Nutrients in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	[NT]
Date analysed	-			03/09/2020	1	03/09/2020	03/09/2020		03/09/2020	[NT]
Total Nitrogen	mg/kg	10	INORG-062	<10	1	92	120	26	117	[NT]
Total Kjeldahl Nitrogen	mg/kg	10	INORG-062	<10	1	92	[NT]		[NT]	[NT]
NOx as N (1:5 soil:water)	mg/kg	0.1	INORG-055	<0.1	1	0.21	[NT]		101	[NT]
Nitrate-N	mg/kg	0.1	INORG-055	<0.1	1	0.19	[NT]		101	[NT]
Nitrite-N	mg/kg	0.1	INORG-055	<0.1	1	<0.1	[NT]		103	[NT]
Ammonia as N (1:5 KCl extract)	mg/kg	0.5	INORG-057	<0.5	1	4.1	[NT]		89	[NT]
Total Phosphorus	mg/kg	10	METALS-020	<10	1	110	[NT]		98	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			04/09/2020	[NT]	[NT]	[NT]	[NT]	04/09/2020	[NT]
Date analysed	-			04/09/2020	[NT]	[NT]	[NT]	[NT]	04/09/2020	[NT]
pH	pH Units		INORG-001	[NT]	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249438-8
Date prepared	-			03/09/2020	2	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Date analysed	-			03/09/2020	2	03/09/2020	03/09/2020		03/09/2020	03/09/2020
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	96	104
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	104	102
Perfluorohexanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	104	103
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	103	106
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	102	106
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	96	107
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	97	103
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	97	102
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	99	106
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	95	103
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	94	101
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	101	99
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	101	100
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	104	114
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	103	107
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	80	65
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	2	<5	<5	0	100	104
4:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	99	112
6:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	96	109
8:2 FTS	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	105	100
10:2 FTS	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	88	98
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	95	101
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	101	106
N-Ethyl perfluorooctanesulfon -amide	µg/kg	1	Org-029	<1	2	<1	<1	0	95	104
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	1	Org-029	<1	2	<1	<1	0	99	107
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	5	Org-029	<5	2	<5	<5	0	97	109
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	94	108
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	89	105
Surrogate $^{13}C_8$ PFOS	%		Org-029	100	2	101	99	2	100	103
Surrogate $^{13}C_2$ PFOA	%		Org-029	96	2	99	95	4	94	93
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	95	2	97	94	3	95	84

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249438-8
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	89	2	90	90	0	86	83
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	90	2	87	91	4	92	84
Extracted ISTD 13C4 PFBA	%		Org-029	92	2	85	84	1	90	78
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	90	2	89	90	1	90	81
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	94	2	89	88	1	92	83
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	92	2	88	89	1	91	81
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	92	2	87	88	1	91	84
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	94	2	89	89	0	93	83
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	110	2	89	85	5	106	91
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	87	2	93	88	6	99	86
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	96	2	85	86	1	93	88
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	105	2	86	86	0	132	68
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	99	2	90	87	3	100	81
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	89	2	81	85	5	89	75
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	114	2	72	87	19	103	83
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	92	2	87	86	1	88	80
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	89	2	87	78	11	89	74
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	92	2	89	80	11	96	68
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	95	2	88	90	2	91	79
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	95	2	88	88	0	98	79
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	87	2	88	85	3	90	79

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249438-8
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	86	2	96	89	8	96	78

QUALITY CONTROL: Moisture						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			03/09/2020	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Date analysed	-			03/09/2020	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Moisture	%	0.1	INORG-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/MBTEXN in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date analysed	-			03/09/2020	[NT]	[NT]	[NT]	[NT]	03/09/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	97	[NT]
MTBE	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	99	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	95	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate toluene-d8	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	95	[NT]	[NT]	[NT]	[NT]	104	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

Report Comments

PFAS analysis conducted by Envirolab Services. Report 250180.

PSD and sieving analysis conducted by Microanalysis. Report 20_1354.
See attached for analytical reports.

Calcium carbonate analysis conducted by Greencap Report 39142 attached.

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DATA QUALITY ASSESSMENT SUMMARY

Report Details

Envirolab Report Reference	**249438**
Client ID	Department for Environment and Water (SA)
Project Reference	Port Stanvac Sediment Sampling- 20085.02
Date Issued	22/10/2020

QC DATA

All laboratory QC data was within the Envirolab Group's specifications except:

QC Specification Exceptions

QC Type	Reference	Analysis	Comments
Precision (as %RPD)	249438-7	Benzo(b,j+k)fluoranthene	77% RPD fails internal acceptance criteria
Precision (as %RPD)	249438-7	Indeno(1,2,3-c,d)pyrene	81% RPD fails internal acceptance criteria

See Report 249438-[R00] for QA/QC details

HOLDING TIME COMPLIANCE EVALUATION

All preservation / holding times (based on AS/ASPHA/ISO/NEPM/USEPA reference documents and standards) are compliant except:

Holding Time Exceedances

Analysis	Sample No	Date Sampled	Date Extracted	Date Analysed	Accepted
External Testing					
	249438-4	28/08/2020			##
	249438-10	28/08/2020			##
	249438-16	28/08/2020			##
	249438-21	28/08/2020			##
	249438-25	28/08/2020			##

Holding Table Comments

No Extract or Analysed Dates were provided. Holding Times cannot be calculated.

Certain analyses have had their recommended technical holding times elongated by filtering and/or freezing on receipt at the laboratory (e.g. BOD, chlorophyll/Pheophytin, nutrients and acid sulphate soil tests).

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COMPLIANCE TO QC FREQUENCY (NEPM)

Internal laboratory QC rate complies with NEPM requirements (LCS/MB/MS 1 in 20, Duplicates 1 in 10 samples). Note, samples are batched together with other sample consignments in order to assign QC sample frequency.

QC Evaluation	
Duplicate(s) was performed as per NEPM frequency	✓
Laboratory Control Sample(s) were analysed with the samples received	✓
A Method Blank was performed with the samples received	✓
Matrix spike(s) was performed as per NEPM frequency (Not Applicable for Air samples)	✓

Refer to Certificate of Analysis for all Quality Control data.

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling

Job Number : 20085.02

Project Manager: Joe Pedicini

Phone: 0408847239

Email: joe.pedicini@environmentalprojects.com.au

Results to: Lab.Results@environmentalprojects.com.au

Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab

Laboratory Quote Ref: DEW Port Stanvac

Secondary Laboratory:

Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 2

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD						Additional Comments / Notes
1	SS17-1	0.1-0.2	28/08/2020	Glass jar		1									
2	SS17-1	0.2-0.3	↓	Plastic jar			1								
3	SS17	0.4-0.6		plastic bag				1							200 mm core length
4	SS~~20~~-17	comp		plastic bag					1						Composite
5	SS17-2	0.9-1.0		Glass jar											
6	SS17-2	1.0-1.1		Plastic jar											
7	SS18-1	0.1-0.2		Glass jar		1									
8	SS18-1	0.2-0.3		Plastic jar			1								
9	SS18	comp		plastic bag				1							200 mm core length
10	SS18	comp		plastic bag					1						Composite
11	SS18-2	0.5-0.6		Glass jar											
12	SS18-2	0.6-0.7		Plastic jar											
13	SS21-1	0.1-0.2		Glass jar		1									
14	SS21-1	0.2-0.3		Plastic jar			1								
15	SS21	0.5-0.7		plastic bag				1							200 mm core length
16	SS21	comp		plastic bag					1						Composite
17	SS21-2	0.85-0.95		Glass jar											
18	SS21-2	0.95-1.05		Plastic jar											
19	SS23	0.03-0.13		Glass jar		1									
20	SS23	0.13-0.23		Plastic jar			1								
21	SS23	comp		plastic bag					1						Composite
22	SS30-1	0.1-0.2		Glass jar		1									
23	SS30-1	0.2-0.3		Plastic jar			1								

Laboratories
Job.- 249438
Date Rec - 1/9/20
Time Rec - 1515
Rec By - G
TAT Req - SAME 1 / 2 / 3 / STD
Temp - cool / ambient
Packing - Ice / Ice pack / None
Seal - Yes / No

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: C. Jackman
Date\time requested: 300820 2pm	Date\time received: 1/9/20 1515
Signature: JP	Signature: G

Additional Comments

Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides

Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling

Job Number : 20085.02

Project Manager: Joe Pedicini

Phone: 0408847239

Email: joe.pedicini@environmentalprojects.com.au

Results to: Lab.Results@environmentalprojects.com.au

Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab

Laboratory Quote Ref: DEW Port Stanvac

Secondary Laboratory:

Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 2

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD	Metals	TRH				Additional Comments / Notes
24	SS30	0.4-0.6	28/08/2020	plastic bag				1							200 mm core length
25	SS30	comp	↓	plastic bag					1						Composite
26	SS30-2	0.8-0.9		Glass jar											
27	SS30-2	0.9-1.0		Plastic jar											
28	TB			Water							1				

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: C. Tacey
Date\time requested: 300820 2pm	Date\time received: 1/9/20
Signature: JP	Signature:

Additional Comments

Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides

Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

envirolab Laboratories
Job No.- 24459
Date Rec - 2/9/2020
Time Rec - 10:05
Rec By - GM
TAT Req - SAME 1 / 2 / 3 / STD
Temp - Cool / ambient
Cooling - Ice / Ice Pack / None
Seal - Yes / No

Project Title :	Port Stanvac Sediment Sampling
Job Number :	20085.02
Project Manager:	Joe Pedicini
Phone:	0408847239
Email:	joe.pedicini@environmentalprojects.com.au
Results to:	Lab.Results@environmentalprojects.com.au
Invoice to:	accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab
Laboratory Quote Ref: DEW Port Stanvac
Secondary Laboratory:
Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 3

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD						Additional Comments / Notes
1	SS12-1	0-0.1	31/08/2020	Glass jar		1									
2	SS12-1	0.1-0.2	↓	Plastic jar			1								
3	SS12	comp		plastic bag				1							200 mm core length
4	SS12	comp		plastic bag					1						Composite
5	SS12-2	0.4-0.5		Glass jar											
6	SS12-2	0.5-0.6		Plastic jar											
7 ~~SS12-2~~ 8	SS13-1	0-0.1		Glass jar		1									Core length.
9	SS13-1	0.1-0.2		Plastic jar			1								
10	SS13	0.2-0.5		plastic bag				1							150 mm core length (half core)
11	SS13	comp		plastic bag					1						Composite
12	SS13-2	0.6-0.7		Glass jar											
13	SS13-2	0.7-0.8		Plastic jar											
14	SS14	0.05-0.15		Glass jar		1									
15	SS14	0.15-0.25		Plastic jar			1								
16	SS14	comp		plastic bag				1							150 mm core length
17	SS14	comp		plastic bag					1						Composite
18	SS15	0.05-0.15		Glass jar		1									
19	SS15	0.15-0.25		Plastic jar			1								
20	SS15	comp		plastic bag					1						Composite
21	SS24-1	0-0.1		Glass jar		1									
22	SS24-1	0.1-0.2		Plastic jar			1								
23	SS24	0.2-0.5		plastic bag				1							150 mm core length (half core)
24	SS24	comp		plastic bag					1						Composite

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: GM
Date\time requested: 010920 12pm	Date\time received: 2/9/2020, 10:05
Signature: JP	Signature:

Additional Comments

Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides

Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling

Job Number : 20085.02

Project Manager: Joe Pedicini

Phone: 0408847239

Email: joe.pedicini@environmentalprojects.com.au

Results to: Lab.Results@environmentalprojects.com.au

Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab

Laboratory Quote Ref: DEW Port Stanvac

Secondary Laboratory:

Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 3

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD	Metals	TRH				Additional Comments / Notes
25	SS24-2	0.9-1.0	31/08/2020	Glass jar				~~1~~							200 mm core length
26	SS24-2	1.0-1.1	↓	Plastic jar					~~1~~						Composite
27	SS25			Plastic bag											
28	SS28-1	0.05-0.15		Glass jar	1	1									
29	SS28-1	0.15-0.25		Plastic jar			1								
30	SS28	comp		plastic bag				1							200 mm core length
31	SS28	comp		plastic bag					1						Composite
32	SS28-2	0.7-0.8		Glass jar											
33	SS28-2	0.8-0.9		Plastic jar											
34	SS29-1	0-0.1		Glass jar		1									
35	SS29-1	0.1-0.2		Plastic jar			1								
36	SS29-1	0.2-0.4		plastic bag				1							100 mm core length (half core)
37	SS29-1	comp		plastic bag					1						Composite
38	SS29-2	0.4-0.5		Glass jar											
39	SS29-2	0.5-0.6		Plastic jar											
40	DUP 2					1									
41	DUP 2						1								
42	EB2			Water						1	1				
43	TB			Water							1				

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: [illegible]
Date\time requested: 010920 12pm	Date\time received: 2/9/2020
Signature: JP	Signature: [illegible]

Additional Comments

Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides

Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH

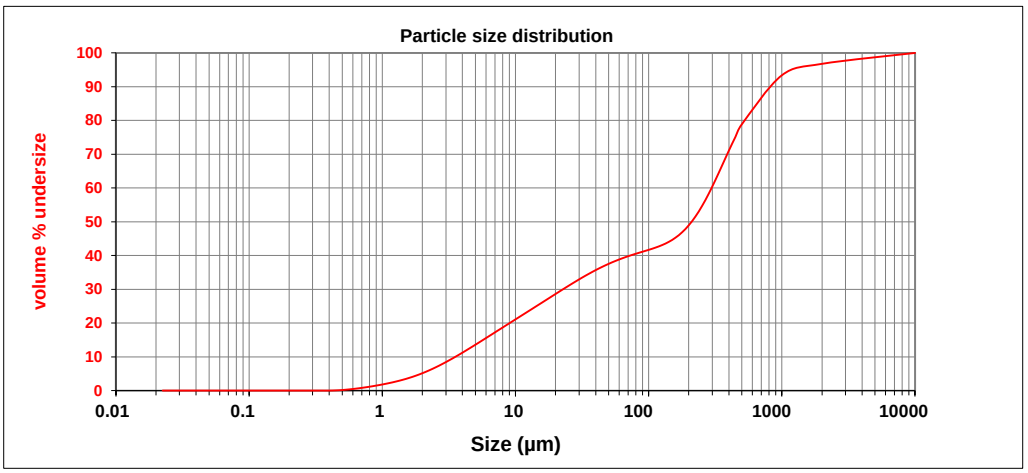
microanalysis australia

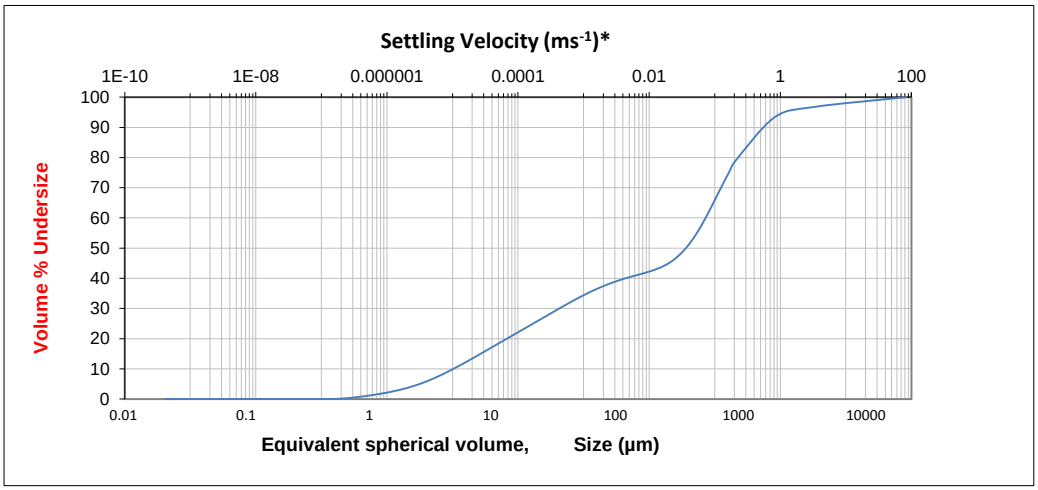
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249459-4	**Date reported:**	15/09/2020
Batch No :	20_1366		
Lab ID No :	20_1366_01		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	3 min sonication		

Span:	4.20	**Vol. Weighted mean D[4,3]:**	414.75 µm	**d(0.1)**	3.54 µm
		Surface weighted mean D[3,2]	10.26 µm	**d(0.5)**	209.72 µm
Volume % under 75um:	40.15%			**d(0.9)**	883.50 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	1.81	7.096	17.36	50.238	37.56	355.66	66.67
0.022	0.00	0.159	0.00	1.125	2.21	7.962	18.61	56.368	38.40	399.05	70.99
0.025	0.00	0.178	0.00	1.262	2.66	8.934	19.86	63.246	39.16	447.74	75.13
0.028	0.00	0.200	0.00	1.416	3.16	10.024	21.11	70.963	39.86	500.00	78.85
0.032	0.00	0.224	0.00	1.589	3.74	11.247	22.36	79.621	40.49	1000.00	93.39
0.036	0.00	0.252	0.00	1.783	4.40	12.619	23.60	89.337	41.09	2000.00	96.77
0.040	0.00	0.283	0.00	2.000	5.14	14.159	24.85	100.237	41.69	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	5.97	15.887	26.11	112.468	42.34		
0.050	0.00	0.356	0.00	2.518	6.89	17.825	27.36	126.191	43.10		
0.056	0.00	0.399	0.00	2.825	7.88	20.000	28.61	141.589	44.04		
0.063	0.00	0.448	0.05	3.170	8.94	22.440	29.86	158.866	45.28		
0.071	0.00	0.502	0.17	3.557	10.05	25.179	31.09	178.250	46.89		
0.080	0.00	0.564	0.34	3.991	11.21	28.251	32.30	200.000	48.96		
0.089	0.00	0.632	0.57	4.477	12.41	31.698	33.47	224.404	51.56		
0.100	0.00	0.710	0.83	5.024	13.63	35.566	34.59	251.785	54.70		
0.112	0.00	0.796	1.12	5.637	14.87	39.905	35.65	282.508	58.34		
0.126	0.00	0.893	1.45	6.325	16.11	44.774	36.64	316.979	62.38		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

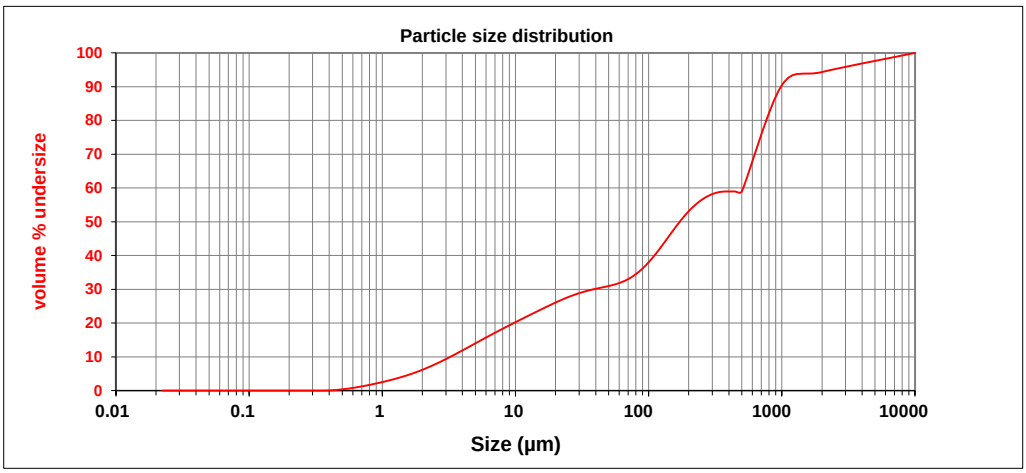
microanalysis australia

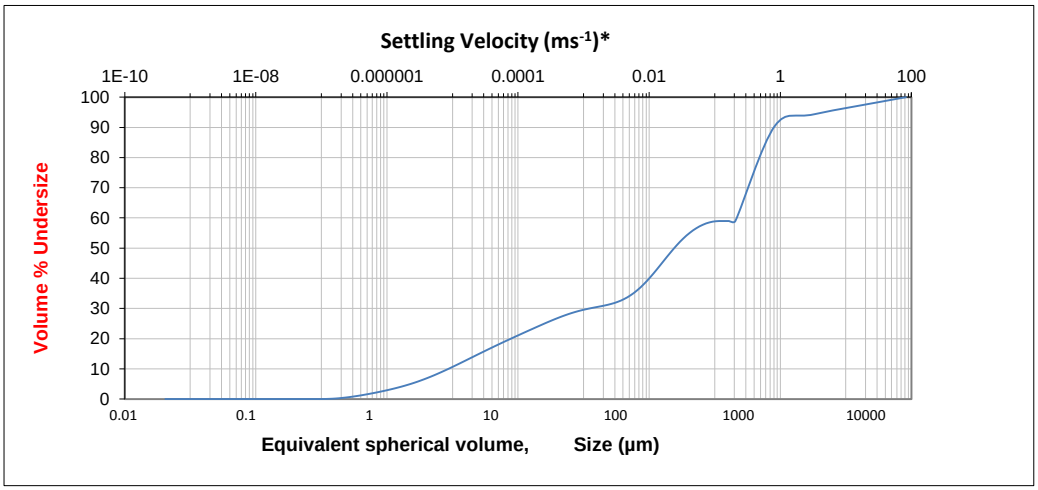
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249459-20	**Date reported:**	15/09/2020
Batch No :	20_1366		
Lab ID No :	20_1366_04		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	7 min sonication		

Span:	5.77	**Vol. Weighted mean D[4,3]:**	575.65 µm	**d(0.1)**	3.24 µm
		Surface weighted mean D[3,2]	9.40 µm	**d(0.5)**	171.44 µm
Volume % under 75um:	33.72%			**d(0.9)**	992.72 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	2.52	7.096	17.22	50.238	30.97	355.66	58.90
0.022	0.00	0.159	0.00	1.125	3.01	7.962	18.26	56.368	31.49	399.05	58.97
0.025	0.00	0.178	0.00	1.262	3.52	8.934	19.27	63.246	32.18	447.74	58.97
0.028	0.00	0.200	0.00	1.416	4.09	10.024	20.27	70.963	33.13	500.00	58.97
0.032	0.00	0.224	0.00	1.589	4.71	11.247	21.27	79.621	34.40	1000.00	90.46
0.036	0.00	0.252	0.00	1.783	5.40	12.619	22.25	89.337	36.05	2000.00	94.34
0.040	0.00	0.283	0.00	2.000	6.15	14.159	23.23	100.237	38.06	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	6.98	15.887	24.19	112.468	40.40		
0.050	0.00	0.356	0.00	2.518	7.87	17.825	25.15	126.191	42.98		
0.056	0.00	0.399	0.06	2.825	8.81	20.000	26.07	141.589	45.68		
0.063	0.00	0.448	0.17	3.170	9.80	22.440	26.95	158.866	48.36		
0.071	0.00	0.502	0.37	3.557	10.83	25.179	27.76	178.250	50.89		
0.080	0.00	0.564	0.62	3.991	11.89	28.251	28.49	200.000	53.14		
0.089	0.00	0.632	0.92	4.477	12.96	31.698	29.12	224.404	55.04		
0.100	0.00	0.710	1.27	5.024	14.03	35.566	29.66	251.785	56.57		
0.112	0.00	0.796	1.66	5.637	15.11	39.905	30.13	282.508	57.73		
0.126	0.00	0.893	2.08	6.325	16.17	44.774	30.54	316.979	58.51		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

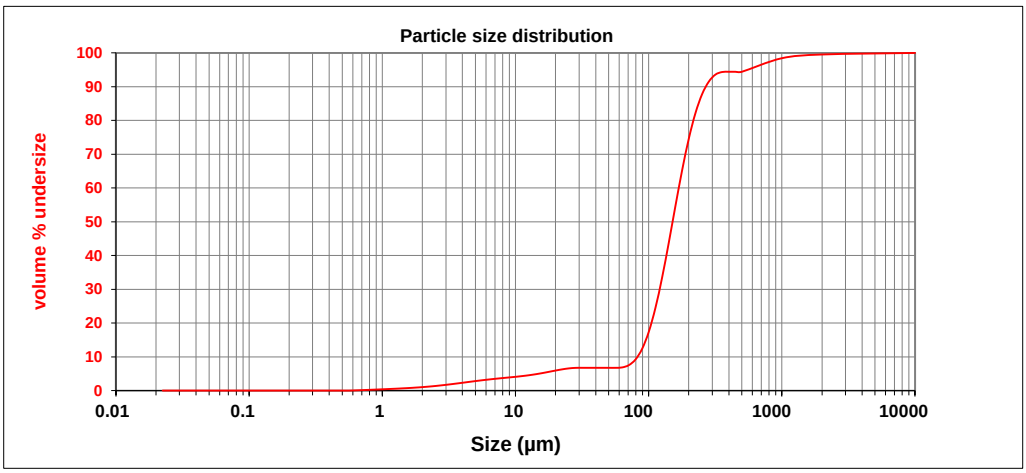
microanalysis australia

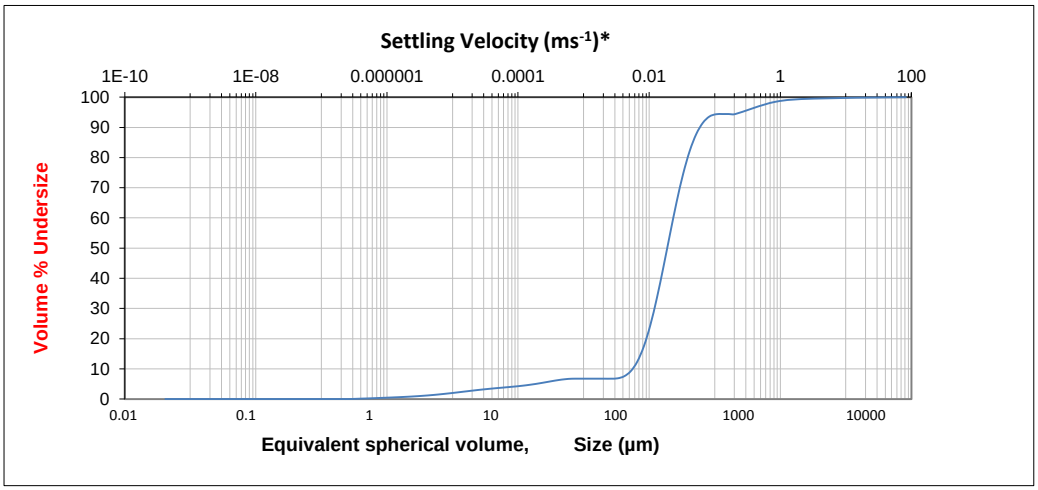
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249459-11	**Date reported:**	15/09/2020
Batch No :	20_1366		
Lab ID No :	20_1366_02		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	5 min sonication		

Span:	1.24	**Vol. Weighted mean D[4,3]:**	206.69 µm	**d(0.1)**	82.03 µm
		Surface weighted mean D[3,2]	40.34 µm	**d(0.5)**	151.35 µm
Volume % under 75um:	8.32%			**d(0.9)**	270.15 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.38	7.096	3.50	50.238	6.74	355.66	94.34
0.022	0.00	0.159	0.00	1.125	0.46	7.962	3.69	56.368	6.74	399.05	94.41
0.025	0.00	0.178	0.00	1.262	0.55	8.934	3.88	63.246	6.86	447.74	94.41
0.028	0.00	0.200	0.00	1.416	0.65	10.024	4.08	70.963	7.53	500.00	94.41
0.032	0.00	0.224	0.00	1.589	0.76	11.247	4.29	79.621	9.21	1000.00	98.44
0.036	0.00	0.252	0.00	1.783	0.88	12.619	4.54	89.337	12.39	2000.00	99.54
0.040	0.00	0.283	0.00	2.000	1.02	14.159	4.84	100.237	17.46	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	1.18	15.887	5.18	112.468	24.55		
0.050	0.00	0.356	0.00	2.518	1.37	17.825	5.55	126.191	33.54		
0.056	0.00	0.399	0.00	2.825	1.58	20.000	5.93	141.589	43.86		
0.063	0.00	0.448	0.00	3.170	1.80	22.440	6.29	158.866	54.73		
0.071	0.00	0.502	0.00	3.557	2.05	25.179	6.57	178.250	65.26		
0.080	0.00	0.564	0.00	3.991	2.31	28.251	6.72	200.000	74.60		
0.089	0.00	0.632	0.06	4.477	2.56	31.698	6.74	224.404	82.19		
0.100	0.00	0.710	0.13	5.024	2.82	35.566	6.74	251.785	87.79		
0.112	0.00	0.796	0.21	5.637	3.06	39.905	6.74	282.508	91.49		
0.126	0.00	0.893	0.29	6.325	3.29	44.774	6.74	316.979	93.59		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

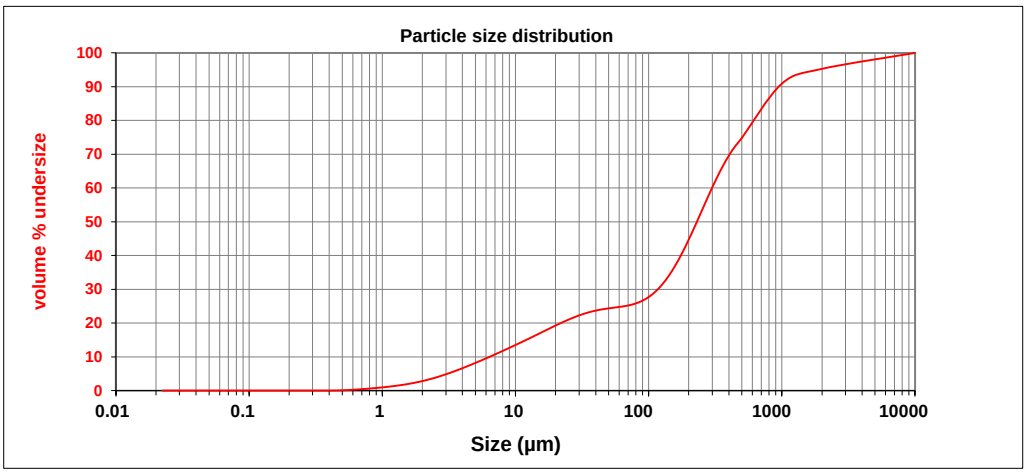
microanalysis australia

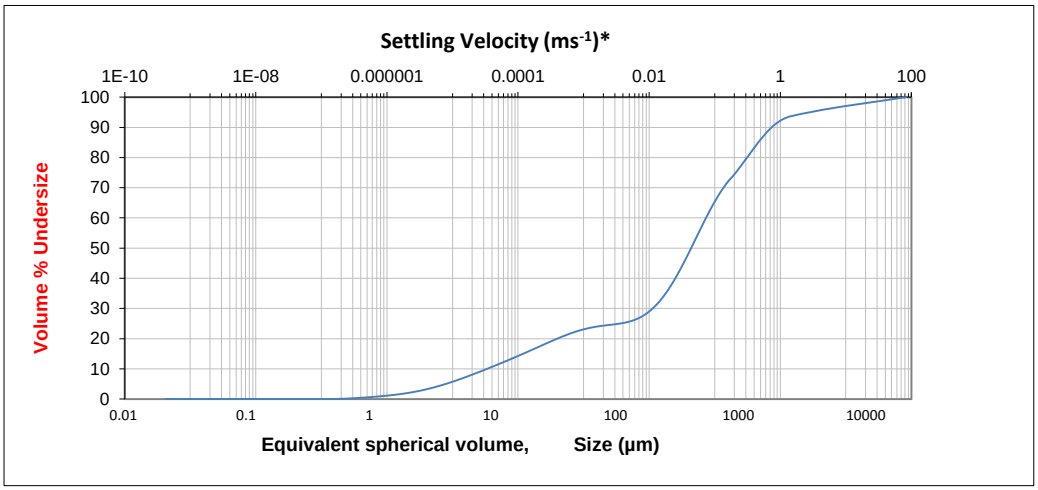
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249459-17	**Date reported:**	15/09/2020
Batch No :	20_1366		
Lab ID No :	20_1366_03		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	5 min sonication		

Span:	4.19	**Vol. Weighted mean D[4,3]:**	512.07 µm	**d(0.1)**	6.39 µm
		Surface weighted mean D[3,2]	16.73 µm	**d(0.5)**	230.30 µm
Volume % under 75um:	25.49%			**d(0.9)**	971.28 µm





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Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.95	7.096	10.80	50.238	24.36	355.66	66.07
0.022	0.00	0.159	0.00	1.125	1.16	7.962	11.69	56.368	24.61	399.05	69.54
0.025	0.00	0.178	0.00	1.262	1.40	8.934	12.59	63.246	24.89	447.74	72.46
0.028	0.00	0.200	0.00	1.416	1.68	10.024	13.51	70.963	25.25	500.00	74.80
0.032	0.00	0.224	0.00	1.589	2.00	11.247	14.45	79.621	25.78	1000.00	90.93
0.036	0.00	0.252	0.00	1.783	2.38	12.619	15.40	89.337	26.58	2000.00	95.28
0.040	0.00	0.283	0.00	2.000	2.81	14.159	16.36	100.237	27.73	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	3.31	15.887	17.33	112.468	29.32		
0.050	0.00	0.356	0.00	2.518	3.86	17.825	18.30	126.191	31.41		
0.056	0.00	0.399	0.00	2.825	4.48	20.000	19.26	141.589	34.01		
0.063	0.00	0.448	0.02	3.170	5.14	22.440	20.19	158.866	37.14		
0.071	0.00	0.502	0.08	3.557	5.86	25.179	21.06	178.250	40.75		
0.080	0.00	0.564	0.18	3.991	6.61	28.251	21.87	200.000	44.75		
0.089	0.00	0.632	0.29	4.477	7.40	31.698	22.58	224.404	49.04		
0.100	0.00	0.710	0.43	5.024	8.22	35.566	23.18	251.785	53.48		
0.112	0.00	0.796	0.59	5.637	9.06	39.905	23.67	282.508	57.90		
0.126	0.00	0.893	0.76	6.325	9.92	44.774	24.06	316.979	62.15		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

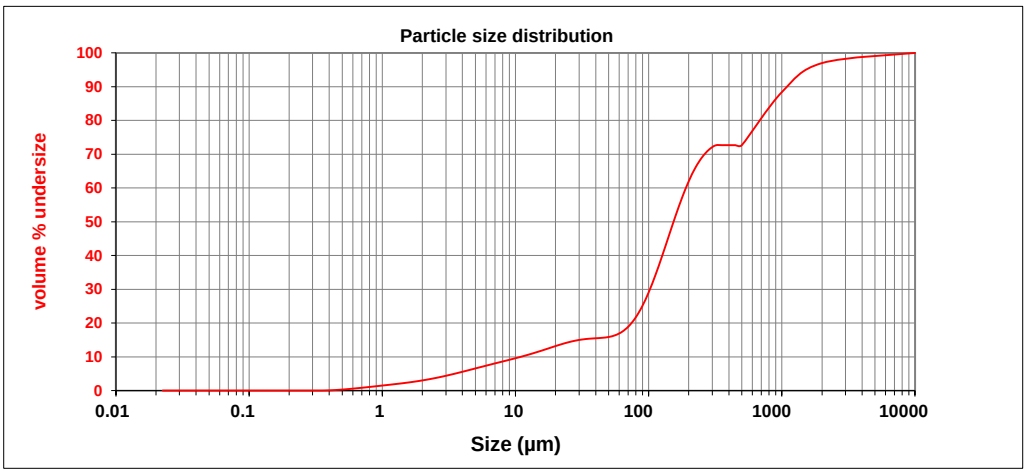
microanalysis australia

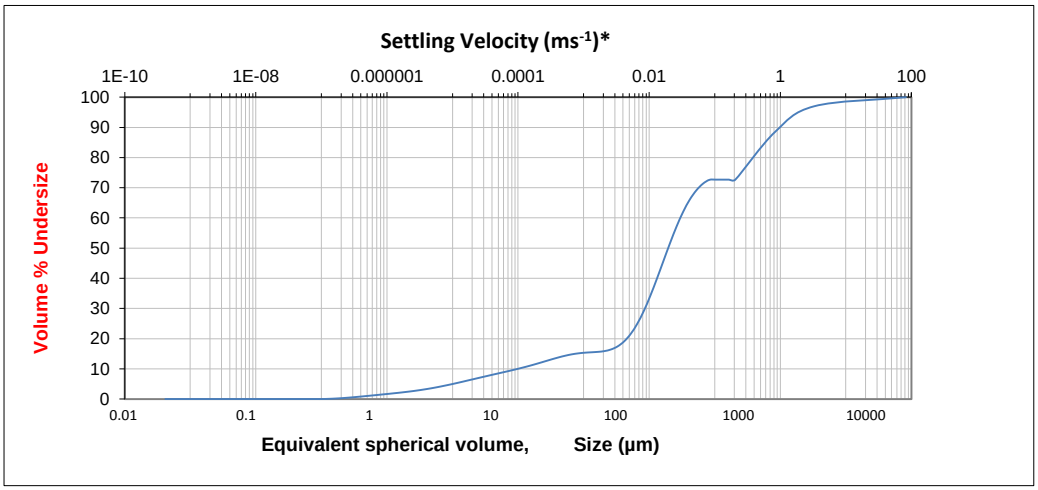
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249459-24	**Date reported:**	15/09/2020
Batch No :	20_1366		
Lab ID No :	20_1366_05		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	15 min sonication		

Span:	6.75	**Vol. Weighted mean D[4,3]:**	452.47 µm	**d(0.1)**	10.97 µm
		Surface weighted mean D[3,2]	17.15 µm	**d(0.5)**	153.95 µm
Volume % under 75um:	20.26%			**d(0.9)**	1050.41 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	1.49	7.096	8.09	50.238	15.88	355.66	72.68
0.022	0.00	0.159	0.00	1.125	1.71	7.962	8.59	56.368	16.43	399.05	72.68
0.025	0.00	0.178	0.00	1.262	1.93	8.934	9.09	63.246	17.44	447.74	72.68
0.028	0.00	0.200	0.00	1.416	2.17	10.024	9.59	70.963	19.11	500.00	72.68
0.032	0.00	0.224	0.00	1.589	2.42	11.247	10.12	79.621	21.58	1000.00	88.41
0.036	0.00	0.252	0.00	1.783	2.70	12.619	10.68	89.337	24.94	2000.00	96.99
0.040	0.00	0.283	0.00	2.000	3.01	14.159	11.27	100.237	29.21	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	3.35	15.887	11.89	112.468	34.25		
0.050	0.00	0.356	0.00	2.518	3.73	17.825	12.54	126.191	39.88		
0.056	0.00	0.399	0.06	2.825	4.15	20.000	13.18	141.589	45.80		
0.063	0.00	0.448	0.16	3.170	4.59	22.440	13.80	158.866	51.67		
0.071	0.00	0.502	0.30	3.557	5.07	25.179	14.34	178.250	57.18		
0.080	0.00	0.564	0.46	3.991	5.56	28.251	14.80	200.000	62.03		
0.089	0.00	0.632	0.65	4.477	6.07	31.698	15.13	224.404	66.04		
0.100	0.00	0.710	0.85	5.024	6.58	35.566	15.35	251.785	69.11		
0.112	0.00	0.796	1.06	5.637	7.09	39.905	15.49	282.508	71.30		
0.126	0.00	0.893	1.27	6.325	7.59	44.774	15.62	316.979	72.61		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

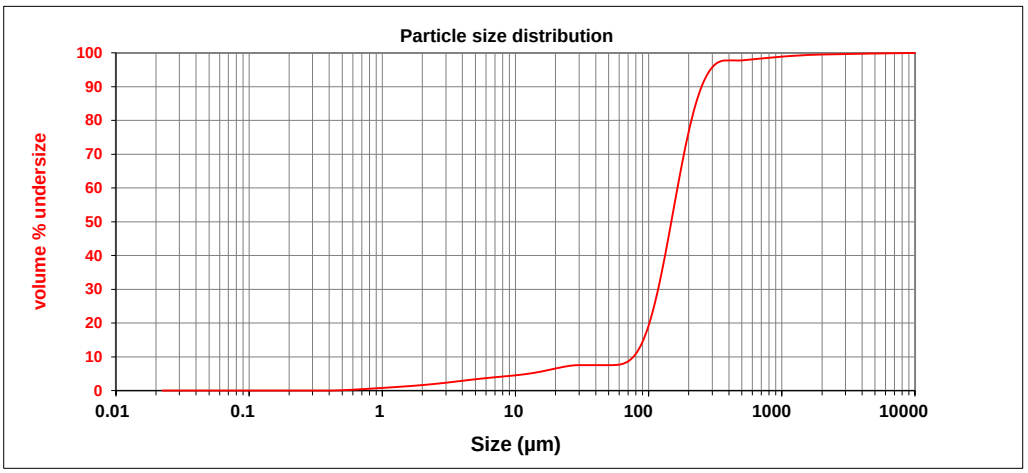
microanalysis australia

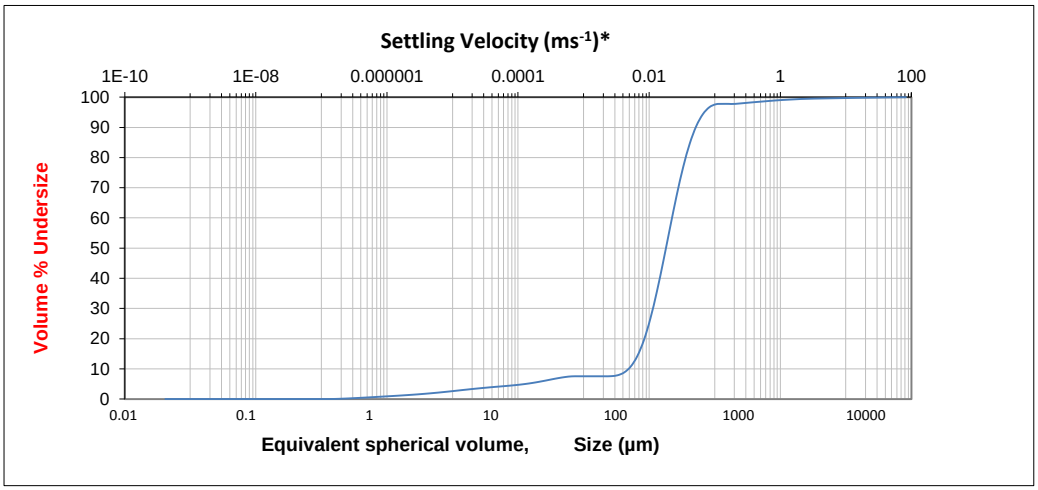
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249459-31	**Date reported:**	15/09/2020
Batch No :	20_1366		
Lab ID No :	20_1366_06		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	15 min sonication		

Span:	1.17	**Vol. Weighted mean D[4,3]:**	184.24 µm	**d(0.1)**	76.27 µm
		Surface weighted mean D[3,2]	30.04 µm	**d(0.5)**	148.04 µm
Volume % under 75um:	9.71%			**d(0.9)**	249.82 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.79	7.096	3.96	50.238	7.53	355.66	97.66
0.022	0.00	0.159	0.00	1.125	0.91	7.962	4.15	56.368	7.57	399.05	97.78
0.025	0.00	0.178	0.00	1.262	1.04	8.934	4.33	63.246	7.88	447.74	97.78
0.028	0.00	0.200	0.00	1.416	1.18	10.024	4.52	70.963	8.80	500.00	97.78
0.032	0.00	0.224	0.00	1.589	1.32	11.247	4.75	79.621	10.76	1000.00	98.90
0.036	0.00	0.252	0.00	1.783	1.47	12.619	5.01	89.337	14.20	2000.00	99.53
0.040	0.00	0.283	0.00	2.000	1.63	14.159	5.33	100.237	19.46	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	1.81	15.887	5.70	112.468	26.66		
0.050	0.00	0.356	0.00	2.518	2.00	17.825	6.11	126.191	35.66		
0.056	0.00	0.399	0.00	2.825	2.21	20.000	6.54	141.589	45.95		
0.063	0.00	0.448	0.03	3.170	2.43	22.440	6.94	158.866	56.80		
0.071	0.00	0.502	0.11	3.557	2.66	25.179	7.29	178.250	67.35		
0.080	0.00	0.564	0.20	3.991	2.89	28.251	7.51	200.000	76.81		
0.089	0.00	0.632	0.31	4.477	3.13	31.698	7.53	224.404	84.59		
0.100	0.00	0.710	0.42	5.024	3.36	35.566	7.53	251.785	90.42		
0.112	0.00	0.796	0.54	5.637	3.57	39.905	7.53	282.508	94.35		
0.126	0.00	0.893	0.66	6.325	3.77	44.774	7.53	316.979	96.67		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

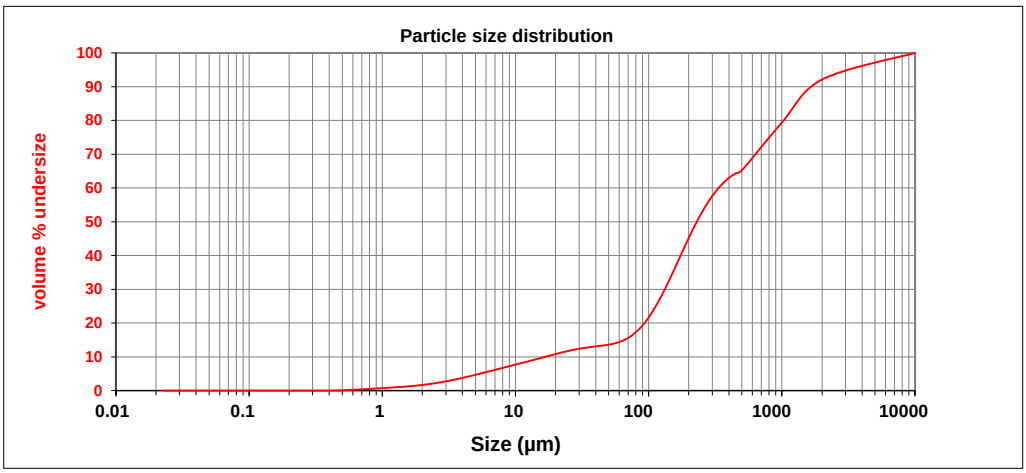
microanalysis australia

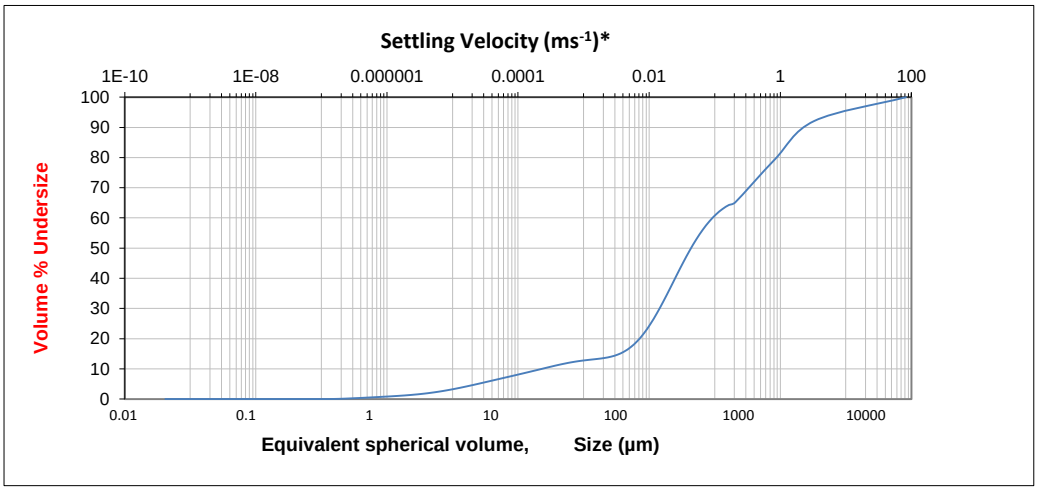
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	2/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	14/09/2020
Client ID:	249459-37	**Date reported:**	15/09/2020
Batch No :	20_1366		
Lab ID No :	20_1366_07		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	3 min sonication		

Span:	7.89	**Vol. Weighted mean D[4,3]:**	734.31 µm	**d(0.1)**	16.77 µm
		Surface weighted mean D[3,2]	26.31 µm	**d(0.5)**	230.20 µm
Volume % under 75um:	16.41%			**d(0.9)**	1834.13 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.72	7.096	6.17	50.238	13.60	355.66	61.14
0.022	0.00	0.159	0.00	1.125	0.84	7.962	6.68	56.368	14.03	399.05	62.95
0.025	0.00	0.178	0.00	1.262	0.97	8.934	7.18	63.246	14.70	447.74	64.30
0.028	0.00	0.200	0.00	1.416	1.11	10.024	7.69	70.963	15.72	500.00	65.18
0.032	0.00	0.224	0.00	1.589	1.27	11.247	8.20	79.621	17.19	1000.00	79.38
0.036	0.00	0.252	0.00	1.783	1.45	12.619	8.71	89.337	19.18	2000.00	92.11
0.040	0.00	0.283	0.00	2.000	1.67	14.159	9.23	100.237	21.73	10000.00	100.00
0.045	0.00	0.317	0.00	2.244	1.92	15.887	9.76	112.468	24.83		
0.050	0.00	0.356	0.00	2.518	2.21	17.825	10.29	126.191	28.43		
0.056	0.00	0.399	0.00	2.825	2.54	20.000	10.81	141.589	32.42		
0.063	0.00	0.448	0.03	3.170	2.90	22.440	11.31	158.866	36.66		
0.071	0.00	0.502	0.10	3.557	3.31	25.179	11.77	178.250	40.98		
0.080	0.00	0.564	0.18	3.991	3.74	28.251	12.19	200.000	45.22		
0.089	0.00	0.632	0.28	4.477	4.20	31.698	12.54	224.404	49.23		
0.100	0.00	0.710	0.38	5.024	4.68	35.566	12.82	251.785	52.88		
0.112	0.00	0.796	0.49	5.637	5.17	39.905	13.07	282.508	56.10		
0.126	0.00	0.893	0.60	6.325	5.67	44.774	13.31	316.979	58.86		

Note: Data from 500µm to 10000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Angie Thorpe, B.Sc.(Biological Sciences)
Reported:	Angie Thorpe, B.Sc.(Biological Sciences)
Approved:	Ian Davies, B.Sc.(Chemistry)

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
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16-18 Hayden Court Myaree WA 6154
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lab@mpl.com.au
www.mpl.com.au

CERTIFICATE OF ANALYSIS 249740

Client Details

Client	Department for Environment and Water (SA)
Attention	Joe Pedicini
Address	81-95 Waymouth Street, ADELAIDE, SA, 5001

Sample Details

Your Reference	**Port Stanvac Sediment Sampling- 20085.02**
Number of Samples	25 Sediment and 2 Water
Date samples received	08/09/2020
Date completed instructions received	08/09/2020

Analysis Details

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

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

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

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

Report Details

Date results requested by	30/09/2020
Date of Issue	30/09/2020

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

Results Approved By
Heram Halim, Operations Manager
Huong Tran, Chemist
Michael Kubiak, Laboratory Manager
Travis Carey, Organics - Team Leader

Authorised By

Michael Kubiak, Laboratory Manager

Metals in sediment						
Our Reference		249740-1	249740-5	249740-9	249740-13	249740-19
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0-0.1	0-0.1	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date digested	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Date analysed	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Aluminium	mg/kg	1,600	2,700	1,300	1,100	2,000
Antimony	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic	mg/kg	17	14	8.3	2.8	5.5
Cadmium	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	mg/kg	12	9.6	5.4	4.4	3.6
Cobalt	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Copper	mg/kg	0.8	2.0	0.6	0.5	2.4
Iron	mg/kg	7,200	6,500	3,600	2,200	2,500
Lead	mg/kg	4.4	4.3	2.4	2.3	1.7
Manganese	mg/kg	59	51	33	30	22
Mercury	mg/kg	0.04	0.03	0.02	0.01	0.01
Nickel	mg/kg	1.3	1.8	1	1.0	1
Selenium	mg/kg	0.1	0.2	<0.1	<0.1	<0.1
Silver	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	mg/kg	26	23	12	6.3	7.2
Zinc	mg/kg	7.0	5.6	3.0	3.6	2.8

Metals in sediment		
Our Reference		249740-22
Your Reference	UNITS	SS27-1
Depth		0-0.1
Date Sampled		05/09/2020
Type of sample		Sediment
Date digested	-	17/09/2020
Date analysed	-	17/09/2020
Aluminium	mg/kg	1,600
Antimony	mg/kg	0.6
Arsenic	mg/kg	38
Cadmium	mg/kg	<0.1
Chromium	mg/kg	15
Cobalt	mg/kg	<0.5
Copper	mg/kg	<0.5
Iron	mg/kg	13,000
Lead	mg/kg	4.9
Manganese	mg/kg	66
Mercury	mg/kg	0.05
Nickel	mg/kg	1.1
Selenium	mg/kg	0.1
Silver	mg/kg	<0.1
Vanadium	mg/kg	46
Zinc	mg/kg	5.7

VHC's in soil						
Our Reference		249740-1	249740-5	249740-9	249740-13	249740-19
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0-0.1	0-0.1	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Date analysed	-	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
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
Carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
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
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
Bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		249740-1	249740-5	249740-9	249740-13	249740-19
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0-0.1	0-0.1	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Bromobenzene	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-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	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	%	94	96	95	96	100
Surrogate aaa-Trifluorotoluene	%	92	91	96	97	91
Surrogate Toluene-d_8	%	97	98	98	98	98
Surrogate 4-Bromofluorobenz	%	100	100	100	100	99

VHC's in soil		
Our Reference		249740-22
Your Reference	UNITS	SS27-1
Depth		0-0.1
Date Sampled		05/09/2020
Type of sample		Sediment
Date extracted	-	10/09/2020
Date analysed	-	10/09/2020
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
Carbon tetrachloride	mg/kg	<1
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
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
Bromoform	mg/kg	<1
1,1,2,2-tetrachloroethane	mg/kg	<1
1,2,3-trichloropropane	mg/kg	<1

VHC's in soil		
Our Reference		249740-22
Your Reference	UNITS	SS27-1
Depth		0-0.1
Date Sampled		05/09/2020
Type of sample		Sediment
Bromobenzene	mg/kg	<1
2-chlorotoluene	mg/kg	<1
4-chlorotoluene	mg/kg	<1
1,3-dichlorobenzene	mg/kg	<1
1,4-dichlorobenzene	mg/kg	<1
1,2-dichlorobenzene	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	%	103
Surrogate aaa-Trifluorotoluene	%	88
Surrogate Toluene-d_8	%	98
Surrogate 4-Bromofluorobenz	%	100

TRH in Sediment (C6-C9) + BTEX						
Our Reference		249740-1	249740-5	249740-9	249740-13	249740-19
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0-0.1	0-0.1	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Date analysed	-	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
m+p-xylene	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
o-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Xylenes (total)	mg/kg	<0.6	<0.6	<0.6	<0.6	<0.6
Surrogate aaa-Trifluorotoluene	%	86	85	90	91	85

TRH in Sediment (C6-C9) + BTEX		
Our Reference		249740-22
Your Reference	UNITS	SS27-1
Depth		0-0.1
Date Sampled		05/09/2020
Type of sample		Sediment
Date extracted	-	10/09/2020
Date analysed	-	10/09/2020
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.2
Ethylbenzene	mg/kg	<0.2
m+p-xylene	mg/kg	<0.4
o-xylene	mg/kg	<0.2
Xylenes (total)	mg/kg	<0.6
Surrogate aaa-Trifluorotoluene	%	82

sTRH in Sediment (C10-C36)						
Our Reference		249740-1	249740-5	249740-9	249740-13	249740-19
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0-0.1	0-0.1	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Date analysed	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
TRH C_{10} - C_{14}	mg/kg	<25	<25	<25	<25	<25
TRH C_{15} - C_{28}	mg/kg	<25	<25	<25	<25	<25
TRH C_{29} - C_{36}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (C10-C36)	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} - C_{16}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{16} - C_{34}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{34} - C_{40}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (>C10-C40)	mg/kg	<100	<100	<100	<100	<100

sTRH in Sediment (C10-C36)		
Our Reference		249740-22
Your Reference	UNITS	SS27-1
Depth		0-0.1
Date Sampled		05/09/2020
Type of sample		Sediment
Date extracted	-	10/09/2020
Date analysed	-	11/09/2020
TRH C_{10} - C_{14}	mg/kg	<25
TRH C_{15} - C_{28}	mg/kg	<25
TRH C_{29} - C_{36}	mg/kg	<25
Summed total TRH's (C10-C36)	mg/kg	<100
TRH >C_{10} - C_{16}	mg/kg	<25
TRH >C_{16} - C_{34}	mg/kg	<25
TRH >C_{34} - C_{40}	mg/kg	<25
Summed total TRH's (>C10-C40)	mg/kg	<100

PAHs in Sediment (NAGD)						
Our Reference		249740-1	249740-5	249740-9	249740-13	249740-19
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0-0.1	0-0.1	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	14/09/2020	14/09/2020	14/09/2020	14/09/2020	14/09/2020
Naphthalene	µg/kg	<5	<5	<5	<5	<5
2-Methylnaphthalene	µg/kg	<5	<5	<5	<5	<5
Acenaphthylene	µg/kg	<5	<5	<5	<5	<5
Acenaphthene	µg/kg	<5	<5	<5	<5	<5
Fluorene	µg/kg	<5	<5	<5	<5	<5
Phenanthrene	µg/kg	<5	<5	<5	<5	<5
Anthracene	µg/kg	<5	<5	<5	<5	<5
Fluoranthene	µg/kg	<5	<5	<5	<5	<5
Pyrene	µg/kg	<5	<5	<5	<5	<5
Benzo(a)anthracene	µg/kg	<5	<5	<5	<5	<5
Chrysene	µg/kg	<5	<5	<5	<5	<5
Benzo(b,j+k)fluoranthene	µg/kg	<10	<10	<10	<10	<10
Benzo(e)pyrene	µg/kg	<5	<5	<5	<5	<5
Benzo(a)pyrene	µg/kg	<5	<5	<5	<5	<5
Perylene	µg/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	µg/kg	<5	<5	<5	<5	<5
Dibenzo(a,h)anthracene	µg/kg	<5	<5	<5	<5	<5
Benzo(g,h,i)perylene	µg/kg	<5	<5	<5	<5	<5
Coronene	µg/kg	<5	<5	<5	<5	<5
Surrogate p-Terphenyl-D_{14}	%	77	84	75	79	78

PAHs in Sediment (NAGD)		
Our Reference		249740-22
Your Reference	UNITS	SS27-1
Depth		0-0.1
Date Sampled		05/09/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	14/09/2020
Naphthalene	µg/kg	<5
2-Methylnaphthalene	µg/kg	<5
Acenaphthylene	µg/kg	<5
Acenaphthene	µg/kg	<5
Fluorene	µg/kg	<5
Phenanthrene	µg/kg	<5
Anthracene	µg/kg	<5
Fluoranthene	µg/kg	<5
Pyrene	µg/kg	<5
Benzo(a)anthracene	µg/kg	<5
Chrysene	µg/kg	<5
Benzo(b,j+k)fluoranthene	µg/kg	<10
Benzo(e)pyrene	µg/kg	<5
Benzo(a)pyrene	µg/kg	<5
Perylene	µg/kg	<5
Indeno(1,2,3-c,d)pyrene	µg/kg	<5
Dibenzo(a,h)anthracene	µg/kg	<5
Benzo(g,h,i)perylene	µg/kg	<5
Coronene	µg/kg	<5
Surrogate p-Terphenyl-D_{14}	%	83

Speciated Phenols in Soil						
Our Reference		249740-1	249740-5	249740-9	249740-13	249740-19
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0-0.1	0-0.1	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	14/09/2020	14/09/2020	14/09/2020	14/09/2020	14/09/2020
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,6-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
Pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	65	69	61	65	61
Surrogate 2-fluorophenol	%	62	63	64	67	68

Speciated Phenols in Soil		
Our Reference		249740-22
Your Reference	UNITS	SS27-1
Depth		0-0.1
Date Sampled		05/09/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	14/09/2020
Phenol	mg/kg	<0.2
2-Chlorophenol	mg/kg	<0.2
4-Chloro-3-methylphenol	mg/kg	<5
2-Methylphenol	mg/kg	<0.2
3/4-Methylphenol	mg/kg	<0.4
2-Nitrophenol	mg/kg	<0.2
2,4-Dimethylphenol	mg/kg	<0.2
2,4-Dichlorophenol	mg/kg	<0.2
2,6-Dichlorophenol	mg/kg	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2
2,4-Dinitrophenol	mg/kg	<4
4-Nitrophenol	mg/kg	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10
Pentachlorophenol	mg/kg	<5
Surrogate Phenol-d_6	%	67
Surrogate 2-fluorophenol	%	69

SVCH's in Soil						
Our Reference		249740-1	249740-5	249740-9	249740-13	249740-19
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0-0.1	0-0.1	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	08/09/2020	08/09/2020	08/09/2020	08/09/2020	08/09/2020
Date analysed	-	14/09/2020	14/09/2020	14/09/2020	14/09/2020	14/09/2020
1,3-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	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
1,3,5-Trichlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,4-Tetrachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	<2	<2	<2	<2	<2
Hexachlorobutadiene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorobenzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-D_{14}	%	77	84	75	79	78

SVCH's in Soil		
Our Reference		249740-22
Your Reference	UNITS	SS27-1
Depth		0-0.1
Date Sampled		05/09/2020
Type of sample		Sediment
Date extracted	-	08/09/2020
Date analysed	-	14/09/2020
1,3-Dichlorobenzene	mg/kg	<0.5
1,4-Dichlorobenzene	mg/kg	<0.5
1,2-Dichlorobenzene	mg/kg	<0.5
Hexachloroethane	mg/kg	<0.5
1,2,3-Trichlorobenzene	mg/kg	<0.5
1,2,4-Trichlorobenzene	mg/kg	<0.5
1,3,5-Trichlorobenzene	mg/kg	<0.5
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	<0.5
1,2,3,4-Tetrachlorobenzene	mg/kg	<0.5
Hexachlorocyclopentadiene	mg/kg	<2
Hexachlorobutadiene	mg/kg	<0.5
Pentachlorobenzene	mg/kg	<0.5
Hexachlorobenzene (HCB)	mg/kg	<0.5
Surrogate p-Terphenyl-D_{14}	%	83

Nutrients in Soil						
Our Reference		249740-1	249740-5	249740-9	249740-13	249740-19
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0-0.1	0-0.1	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
Date analysed	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
Total Nitrogen	mg/kg	230	250	140	96	100
Total Kjeldahl Nitrogen	mg/kg	230	250	140	96	100
NOx as N (1:5 soil:water)	mg/kg	0.16	0.35	<0.1	<0.1	<0.1
Nitrate-N	mg/kg	0.14	0.29	<0.1	<0.1	<0.1
Nitrite-N	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia as N (1:5 KCl extract)	mg/kg	6.3	9.0	5.5	3.3	3.8
Total Phosphorus	mg/kg	410	310	180	110	320
Organic N	mg/kg	220	240	130	93	98
Phosphate as P	mg/kg	<0.5	<0.5	0.88	<0.5	<0.5

Nutrients in Soil		
Our Reference		249740-22
Your Reference	UNITS	SS27-1
Depth		0-0.1
Date Sampled		05/09/2020
Type of sample		Sediment
Date prepared	-	11/09/2020
Date analysed	-	11/09/2020
Total Nitrogen	mg/kg	210
Total Kjeldahl Nitrogen	mg/kg	210
NOx as N (1:5 soil:water)	mg/kg	0.52
Nitrate-N	mg/kg	0.44
Nitrite-N	mg/kg	<0.1
Ammonia as N (1:5 KCl extract)	mg/kg	6.6
Total Phosphorus	mg/kg	530
Organic N	mg/kg	200
Phosphate as P	mg/kg	<0.5

Miscellaneous Inorg - soil						
Our Reference		249740-1	249740-3	249740-5	249740-7	249740-9
Your Reference	UNITS	SS6	SS6	SS7	SS7	SS11-1
Depth		0-0.1	comp	0-0.1	0.3-0.5	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Date analysed	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
pH	pH Units	8.0	[NA]	8.1	[NA]	8.1
Bulk Density*	g/cm3	[NA]	1.15	[NA]	1.36	[NA]

Miscellaneous Inorg - soil						
Our Reference		249740-11	249740-13	249740-15	249740-19	249740-22
Your Reference	UNITS	SS11	SS16-1	SS16	SS19-1	SS27-1
Depth		0.4-1.0	0.1-0.2	0.3-0.6	0.1-0.2	0-0.1
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Date analysed	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
pH	pH Units	[NA]	8.2	[NA]	8.2	8.2
Bulk Density*	g/cm3	0.90	[NA]	1.32	[NA]	[NA]

Miscellaneous Inorg - soil		
Our Reference		249740-24
Your Reference	UNITS	SS27
Depth		0.2-0.6
Date Sampled		05/09/2020
Type of sample		Sediment
Date prepared	-	10/09/2020
Date analysed	-	11/09/2020
Bulk Density*	g/cm3	1.86

PFAS in Soil Extended						
Our Reference		249740-2	249740-6	249740-10	249740-14	249740-20
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0.1-0.2	0.2-0.3	0.2-0.3	0.2-0.3	0.2-0.3
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
Date analysed	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ PFOS	%	102	100	96	100	100
Surrogate $^{13}C_2$ PFOA	%	92	92	93	95	94
Extracted ISTD $^{13}C_3$ *PFBS*	%	83	81	82	80	84
Extracted ISTD $^{18}O_2$ *PFHxS*	%	84	81	85	82	83
Extracted ISTD $^{13}C_4$ *PFOS*	%	96	93	97	94	96

PFAS in Soil Extended						
Our Reference		249740-2	249740-6	249740-10	249740-14	249740-20
Your Reference	UNITS	SS6	SS7	SS11-1	SS16-1	SS19-1
Depth		0.1-0.2	0.2-0.3	0.2-0.3	0.2-0.3	0.2-0.3
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Extracted ISTD 13C4 PFBA	%	68	63	66	64	66
Extracted ISTD $^{13}C_3$ PFPeA	%	82	79	80	78	83
Extracted ISTD $^{13}C_2$ PFHxA	%	81	77	79	77	80
Extracted ISTD $^{13}C_4$ PFHpA	%	94	88	94	90	95
Extracted ISTD $^{13}C_4$ PFOA	%	97	94	100	95	98
Extracted ISTD $^{13}C_5$ PFNA	%	89	89	92	87	92
Extracted ISTD $^{13}C_2$ PFDA	%	86	82	84	80	86
Extracted ISTD $^{13}C_2$ PFUnDA	%	80	79	81	76	77
Extracted ISTD $^{13}C_2$ PFDoDA	%	75	77	85	73	78
Extracted ISTD $^{13}C_2$ PFTeDA	%	29	48	57	31	38
Extracted ISTD $^{13}C_2$ 4:2FTS	%	75	72	84	75	72
Extracted ISTD $^{13}C_2$ 6:2FTS	%	126	113	121	119	136
Extracted ISTD $^{13}C_2$ 8:2FTS	%	128	102	112	98	103
Extracted ISTD $^{13}C_8$ FOSA	%	80	78	82	79	84
Extracted ISTD d_3 N MeFOSA	%	68	57	59	65	76
Extracted ISTD d_5 N EtFOSA	%	65	46	47	60	75
Extracted ISTD d_7 N MeFOSE	%	94	87	96	90	100
Extracted ISTD d_9 N EtFOSE	%	84	79	89	81	93
Extracted ISTD d_3 N MeFOSAA	%	83	80	86	82	80
Extracted ISTD d_5 N EtFOSAA	%	70	76	80	76	78
Total Positive PFHxS & PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1

PFAS in Soil Extended		
Our Reference		249740-23
Your Reference	UNITS	SS27-1
Depth		0.1-0.2
Date Sampled		05/09/2020
Type of sample		Sediment
Date prepared	-	11/09/2020
Date analysed	-	11/09/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2
Perfluorobutanoic acid	µg/kg	<0.2
Perfluoropentanoic acid	µg/kg	<0.2
Perfluorohexanoic acid	µg/kg	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1
Perfluorononanoic acid	µg/kg	<0.1
Perfluorodecanoic acid	µg/kg	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5
Perfluorododecanoic acid	µg/kg	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5
Perfluorotetradecanoic acid	µg/kg	<5
4:2 FTS	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.2
10:2 FTS	µg/kg	<0.2
Perfluorooctane sulfonamide	µg/kg	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
Surrogate $^{13}C_8$ PFOS	%	99
Surrogate $^{13}C_2$ PFOA	%	90
Extracted ISTD $^{13}C_3$ *PFBS*	%	82
Extracted ISTD $^{18}O_2$ *PFHxS*	%	82
Extracted ISTD $^{13}C_4$ *PFOS*	%	94

PFAS in Soil Extended		
Our Reference		249740-23
Your Reference	UNITS	SS27-1
Depth		0.1-0.2
Date Sampled		05/09/2020
Type of sample		Sediment
Extracted ISTD 13C4 PFBA	%	66
Extracted ISTD $^{13}C_3$ *PFPeA*	%	80
Extracted ISTD $^{13}C_2$ *PFHxA*	%	79
Extracted ISTD $^{13}C_4$ *PFHpA*	%	93
Extracted ISTD $^{13}C_4$ *PFOA*	%	99
Extracted ISTD $^{13}C_5$ *PFNA*	%	90
Extracted ISTD $^{13}C_2$ *PFDA*	%	83
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	76
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	77
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	39
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	77
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	131
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	114
Extracted ISTD $^{13}C_8$ *FOSA*	%	81
Extracted ISTD d_3 *N MeFOSA*	%	74
Extracted ISTD d_5 *N EtFOSA*	%	72
Extracted ISTD d_7 *N MeFOSE*	%	95
Extracted ISTD d_9 *N EtFOSE*	%	88
Extracted ISTD d_3 *N MeFOSAA*	%	80
Extracted ISTD d_5 *N EtFOSAA*	%	76
Total Positive PFHxS & PFOS	µg/kg	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1
Total Positive PFAS	µg/kg	<0.1

Moisture						
Our Reference		249740-1	249740-2	249740-5	249740-6	249740-9
Your Reference	UNITS	SS6	SS6	SS7	SS7	SS11-1
Depth		0-0.1	0.1-0.2	0-0.1	0.2-0.3	0.1-0.2
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Date analysed	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
Moisture	%	26	23	26	22	21

Moisture						
Our Reference		249740-10	249740-13	249740-14	249740-19	249740-20
Your Reference	UNITS	SS11-1	SS16-1	SS16-1	SS19-1	SS19-1
Depth		0.2-0.3	0.1-0.2	0.2-0.3	0.1-0.2	0.2-0.3
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Date analysed	-	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
Moisture	%	18	21	20	17	16

Moisture			
Our Reference		249740-22	249740-23
Your Reference	UNITS	SS27-1	SS27-1
Depth		0-0.1	0.1-0.2
Date Sampled		05/09/2020	05/09/2020
Type of sample		Sediment	Sediment
Date prepared	-	10/09/2020	10/09/2020
Date analysed	-	11/09/2020	11/09/2020
Moisture	%	22	18

External Testing						
Our Reference		249740-4	249740-8	249740-12	249740-16	249740-21
Your Reference	UNITS	SS6	SS7	SS11	SS16	SS19
Depth		comp	comp	comp	comp	0.3-0.9
Date Sampled		05/09/2020	05/09/2020	05/09/2020	05/09/2020	05/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
MicroAnalysis ID		#	#	#	#	#

External Testing		
Our Reference		249740-25
Your Reference	UNITS	SS27
Depth		comp
Date Sampled		05/09/2020
Type of sample		Sediment
MicroAnalysis ID		#

Total Metals in water		
Our Reference		249740-26
Your Reference	UNITS	EB3
Depth		-
Date Sampled		05/09/2020
Type of sample		Water
Date digested	-	10/09/2020
Date analysed	-	10/09/2020
Aluminium-Total	mg/L	0.07
Antimony-Total	mg/L	<0.001
Arsenic-Total	mg/L	<0.001
Cadmium-Total	mg/L	<0.0001
Chromium-Total	mg/L	0.002
Cobalt-Total	mg/L	<0.001
Copper-Total	mg/L	0.001
Iron-Total	mg/L	0.07
Lead-Total	mg/L	0.002
Manganese-Total	mg/L	<0.005
Mercury-Total	mg/L	<0.00005
Nickel-Total	mg/L	<0.001
Selenium-Total	mg/L	<0.001
Silver-Total	mg/L	<0.001
Vanadium-Total	mg/L	<0.001
Zinc-Total	mg/L	0.005

vTRH(C6-C10)/MBTEXN in water		
Our Reference		249740-27
Your Reference	UNITS	TB
Depth		-
Date Sampled		05/09/2020
Type of sample		Water
Date analysed	-	09/09/2020
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6-C_{10} less BTEX (F1)	µg/L	<10
MTBE	µg/L	<1
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	103
Surrogate toluene-d8	%	107
Surrogate 4-BFB	%	99

Method ID	Methodology Summary
AGRI-001	Plant available Sulphur is determined by extraction with 0.25 M Potassium Chloride at 40°C for 3 hours. The resultant extract is then analysed by ICPAES.
Ext-059	Analysed by Microanalysis Australia.
INORG series	Determination of constituents in waters using colourimetric chemistry
INORG-001	pH - Measured using pH meter and electrode base on APHA latest edition, Method 4500-H+. Please note that the results for water analyses may be indicative only, as analysis can be completed outside of the APHA recommended holding times. Soils are reported from a 1:5 water extract unless otherwise specified.
INORG-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
INORG-055	Nitrite - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	Nitrate - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	NOx - determined colourimetrically. Soils are analysed from a water extract.
INORG-057	Ammonia by colourimetric analysis based on APHA latest edition 4500-NH3 F.
INORG-060	Phosphate- determined colourimetrically. Soils are analysed from a water extract.
INORG-062	TKN - determined colourimetrically based on APHA latest edition Norg C.
METALS-020	Determination of various metals by ICP-AES.
METALS-021	Determination of Mercury by Cold Vapour AAS. For urine samples total Mercury is determined, however, mercury in urine is almost entirely in the inorganic form (CDC).
METALS-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
ORG-023	VOC's in soil by methanolic extraction and water directly by purge and trap GC-MS.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated after SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: Metals in sediment						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			17/09/2020	1	17/09/2020	17/09/2020		17/09/2020	[NT]
Date analysed	-			17/09/2020	1	17/09/2020	17/09/2020		17/09/2020	[NT]
Aluminium	mg/kg	1	METALS-020	<1	1	1600	1500	6	86	[NT]
Antimony	mg/kg	0.5	METALS-022	<0.5	1	<0.5	<0.5	0	119	[NT]
Arsenic	mg/kg	0.5	METALS-022	<0.5	1	17	17	0	102	[NT]
Cadmium	mg/kg	0.1	METALS-022	<0.1	1	<0.1	<0.1	0	104	[NT]
Chromium	mg/kg	0.5	METALS-022	<0.5	1	12	11	9	100	[NT]
Cobalt	mg/kg	0.5	METALS-022	<0.5	1	<0.5	<0.5	0	100	[NT]
Copper	mg/kg	0.5	METALS-022	<0.5	1	0.8	0.7	13	95	[NT]
Iron	mg/kg	1	METALS-020	<1	1	7200	7200	0	81	[NT]
Lead	mg/kg	0.5	METALS-022	<0.5	1	4.4	4.4	0	102	[NT]
Manganese	mg/kg	1	METALS-022	<1	1	59	59	0	98	[NT]
Mercury	mg/kg	0.01	METALS-021	<0.01	1	0.04	0.03	29	100	[NT]
Nickel	mg/kg	0.5	METALS-022	<0.5	1	1.3	1.3	0	102	[NT]
Selenium	mg/kg	0.1	METALS-022	<0.1	1	0.1	0.2	67	106	[NT]
Silver	mg/kg	0.1	METALS-022	<0.1	1	<0.1	<0.1	0	108	[NT]
Vanadium	mg/kg	0.5	METALS-022	<0.5	1	26	25	4	103	[NT]
Zinc	mg/kg	0.5	METALS-022	<0.5	1	7.0	7.8	11	101	[NT]

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249740-5
Date extracted	-			10/09/2020	1	10/09/2020	10/09/2020		10/09/2020	10/09/2020
Date analysed	-			10/09/2020	1	10/09/2020	10/09/2020		10/09/2020	10/09/2020
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	111	113
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	mg/kg	1	Org-023	<1	1	<1	<1	0	109	112
2,2-dichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	103	107
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	105	108
1,1-dichloropropene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	120	123
Bromodichloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	108	112
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	mg/kg	1	Org-023	<1	1	<1	<1	0	106	112
1,2-dibromoethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	mg/kg	1	Org-023	<1	1	<1	<1	0	108	110
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	mg/kg	1	Org-023	<1	1	<1	<1	0	102	107
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	102	105

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249740-5
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		ORG-023	95	1	94	95	1	99	97
Surrogate aaa-Trifluorotoluene	%		Org-023	107	1	92	95	3	99	92
Surrogate Toluene-d_8	%		ORG-023	97	1	97	98	1	101	99
Surrogate 4-Bromofluorobenz	%		ORG-023	99	1	100	98	2	96	98

QUALITY CONTROL: TRH in Sediment (C6-C9) + BTEX						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249740-5
Date extracted	-			10/09/2020	1	10/09/2020	10/09/2020		10/09/2020	10/09/2020
Date analysed	-			10/09/2020	1	10/09/2020	10/09/2020		10/09/2020	10/09/2020
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	107	110
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	107	110
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	108	111
Toluene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	111	114
Ethylbenzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	103	106
m+p-xylene	mg/kg	0.4	Org-023	<0.4	1	<0.4	<0.4	0	107	110
o-xylene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	104	107
Surrogate aaa-Trifluorotoluene	%		Org-023	100	1	86	89	3	93	85

QUALITY CONTROL: sTRH in Sediment (C10-C36)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249740-5
Date extracted	-			10/09/2020	1	10/09/2020	10/09/2020		10/09/2020	10/09/2020
Date analysed	-			11/09/2020	1	11/09/2020	11/09/2020		11/09/2020	11/09/2020
TRH C_{10} - C_{14}	mg/kg	25	Org-020	<25	1	<25	<25	0	75	88
TRH C_{15} - C_{28}	mg/kg	25	Org-020	<25	1	<25	<25	0	82	99
TRH C_{29} - C_{36}	mg/kg	25	Org-020	<25	1	<25	<25	0	62	88
TRH >C_{10} - C_{16}	mg/kg	25	Org-020	<25	1	<25	<25	0	80	96
TRH >C_{16} - C_{34}	mg/kg	25	Org-020	<25	1	<25	<25	0	78	95
TRH >C_{34} - C_{40}	mg/kg	25	Org-020	<25	1	<25	<25	0	82	95

QUALITY CONTROL: PAHs in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249740-5
Date extracted	-			08/09/2020	1	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			14/09/2020	1	14/09/2020	14/09/2020		14/09/2020	14/09/2020
Naphthalene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	77	70
2-Methylnaphthalene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluorene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	87	82
Phenanthrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	91	96
Anthracene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Fluoranthene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	93	100
Pyrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	94	107
Benzo(a)anthracene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Chrysene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	112	124
Benzo(b,j+k)fluoranthene	µg/kg	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Benzo(e)pyrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Benzo(a)pyrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	105	133
Perylene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Coronene	µg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	86	1	77	80	4	79	64

QUALITY CONTROL: Speciated Phenols in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249740-5
Date extracted	-			08/09/2020	1	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			14/09/2020	1	14/09/2020	14/09/2020		14/09/2020	14/09/2020
Phenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	81	61
2-Chlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	77	61
4-Chloro-3-methylphenol	mg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
2-Methylphenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	74	61
3/4-Methylphenol	mg/kg	0.4	Org-022/025	<0.4	1	<0.4	<0.4	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	79	61
2,4,5-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022/025	<4	1	<4	<4	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
2-Methyl-4,6-dinitrophenol	mg/kg	10	Org-022/025	<10	1	<10	<10	0	[NT]	[NT]
Pentachlorophenol	mg/kg	5	Org-022/025	<5	1	<5	<5	0	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-022/025	63	1	65	69	6	66	61
Surrogate 2-fluorophenol	%		Org-022/025	69	1	62	71	14	65	62

QUALITY CONTROL: SVCH's in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249740-5
Date extracted	-			08/09/2020	1	08/09/2020	08/09/2020		08/09/2020	08/09/2020
Date analysed	-			14/09/2020	1	14/09/2020	14/09/2020		14/09/2020	14/09/2020
1,3-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,4-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	74	69
1,2-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Hexachloroethane	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2,3-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2,4-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	74	77
1,3,5-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
1,2,3,4-Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Hexachlorocyclopentadiene	mg/kg	2	Org-022/025	<2	1	<2	<2	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Pentachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Hexachlorobenzene (HCB)	mg/kg	0.5	Org-022/025	<0.5	1	<0.5	<0.5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	86	1	77	80	4	79	64

QUALITY CONTROL: Nutrients in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	249740-5
Date prepared	-			11/09/2020	1	11/09/2020	11/09/2020		11/09/2020	11/09/2020
Date analysed	-			11/09/2020	1	11/09/2020	11/09/2020		11/09/2020	11/09/2020
Total Nitrogen	mg/kg	10	INORG-062	<10	1	230	220	4	113	120
Total Kjeldahl Nitrogen	mg/kg	10	INORG-062	<10	1	230	220	4	113	120
NOx as N (1:5 soil:water)	mg/kg	0.1	INORG-055	<0.1	1	0.16	0.13	21	104	86
Nitrate-N	mg/kg	0.1	INORG-055	<0.1	1	0.14	<0.1	33	101	86
Nitrite-N	mg/kg	0.1	INORG-055	<0.1	1	<0.1	<0.1	0	101	97
Ammonia as N (1:5 KCl extract)	mg/kg	0.5	INORG-057	<0.5	1	6.3	6.3	0	100	113
Total Phosphorus	mg/kg	10	METALS-020	<10	1	410	410	0	105	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			10/09/2020	[NT]	[NT]	[NT]	[NT]	10/09/2020	[NT]
Date analysed	-			11/09/2020	[NT]	[NT]	[NT]	[NT]	11/09/2020	[NT]
pH	pH Units		INORG-001	[NT]	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			11/09/2020	2	11/09/2020	11/09/2020		11/09/2020	[NT]
Date analysed	-			11/09/2020	2	11/09/2020	11/09/2020		11/09/2020	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	98	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	97	[NT]
Perfluorohexanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	106	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.2	Org-029	<0.2	2	<0.1	<0.1	0	107	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	102	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	91	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	98	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	100	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	100	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	99	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	99	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	98	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	105	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	97	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	101	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	132	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	2	<5	<5	0	101	[NT]
4:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	97	[NT]
6:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	97	[NT]
8:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.2	<0.2	0	118	[NT]
10:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.2	<0.2	0	134	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	102	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	105	[NT]
N-Ethyl perfluorooctanesulfon -amide	µg/kg	1	Org-029	<1	2	<1	<1	0	99	[NT]
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	1	Org-029	<1	2	<1	<1	0	98	[NT]
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	5	Org-029	<5	2	<5	<5	0	106	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	102	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	99	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-029	102	2	102	103	1	101	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-029	92	2	92	93	1	92	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	83	2	83	81	2	86	[NT]

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	84	2	84	78	7	91	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	96	2	96	90	6	104	[NT]
Extracted ISTD 13C4 PFBA	%		Org-029	68	2	68	65	5	73	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	82	2	82	80	2	86	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	81	2	81	79	2	86	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	94	2	94	90	4	101	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	97	2	97	93	4	109	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	89	2	89	89	0	106	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	86	2	86	80	7	98	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	80	2	80	75	6	92	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	75	2	75	77	3	103	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	29	2	29	32	10	65	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	75	2	75	76	1	86	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	126	2	126	109	14	99	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	128	2	128	117	9	130	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	80	2	80	78	3	93	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	68	2	68	57	18	76	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	65	2	65	49	28	71	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	94	2	94	88	7	103	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	84	2	84	78	7	96	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	83	2	83	81	2	96	[NT]

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	70	2	70	74	6	91	[NT]

QUALITY CONTROL: Moisture						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			10/09/2020	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Date analysed	-			11/09/2020	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Moisture	%	0.1	INORG-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: Total Metals in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			10/09/2020	[NT]	[NT]	[NT]	[NT]	10/09/2020	[NT]
Date analysed	-			10/09/2020	[NT]	[NT]	[NT]	[NT]	10/09/2020	[NT]
Aluminium-Total	mg/L	0.01	METALS-022	<0.01	[NT]	[NT]	[NT]	[NT]	98	[NT]
Antimony-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	113	[NT]
Arsenic-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	107	[NT]
Cadmium-Total	mg/L	0.0001	METALS-022	<0.0001	[NT]	[NT]	[NT]	[NT]	101	[NT]
Chromium-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	107	[NT]
Cobalt-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	105	[NT]
Copper-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	109	[NT]
Iron-Total	mg/L	0.01	METALS-022	<0.01	[NT]	[NT]	[NT]	[NT]	113	[NT]
Lead-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	98	[NT]
Manganese-Total	mg/L	0.005	METALS-022	<0.005	[NT]	[NT]	[NT]	[NT]	105	[NT]
Mercury-Total	mg/L	0.00005	METALS-021	<0.00005	[NT]	[NT]	[NT]	[NT]	102	[NT]
Nickel-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	106	[NT]
Selenium-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	106	[NT]
Silver-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	96	[NT]
Vanadium-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	108	[NT]
Zinc-Total	mg/L	0.001	METALS-022	<0.001	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: vTRH(C6-C10)/MBTEXN in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date analysed	-			09/09/2020	[NT]	[NT]	[NT]	[NT]	09/09/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	103	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	101	[NT]
MTBE	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	95	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	104	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate toluene-d8	%		Org-023	106	[NT]	[NT]	[NT]	[NT]	107	[NT]
Surrogate 4-BFB	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	100	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

Report Comments

PFAS analysis conducted by Envirolab Sydney Report 250703.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s). PFTeDA, MeFOSA and EtFOSA Extracted Internal Standard is outside of global acceptance criteria (50-150%) for LCS and/or MB but within analyte specific acceptance criteria.

PSD analysis conducted by Microanalysis reports 20_1397 # See attached.

COC

Laboratories
Job No.- 249740
Date Rec - 8/9/2020
Time Rec - 10:00
Rec By - Gm
TAT Req - SAME 1 / 2 / 3 / STD
Temp - cool / ambient
Cooling - Ice / Ice pack / None
Seal - Yes / No

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling

Job Number : 20085.02

Project Manager: Joe Pedicini

Phone: 0408847239

Email: joe.pedicini@environmentalprojects.com.au

Results to: Lab.Results@environmentalprojects.com.au

Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab

Laboratory Quote Ref: DEW Port Stanvac

Secondary Laboratory:

Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 4

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD						Additional Comments / Notes
1	SS6	0-0.1	5/09/2020	Glass jar		1									
2	SS6	0.1-0.2	↓	Plastic jar			1								
3	SS6	comp		plastic bag				1							200 mm core length
4	SS6	comp		plastic bag					1						Composite
5	SS7	0-0.1		Glass jar		1									
6	SS7	0.2-0.3		Plastic jar			1								
7	SS7	0.3-0.5		plastic bag				1							200 mm core length
8	SS7	comp		plastic bag					1						Composite
9	SS11-1	0.1-0.2		Glass jar		1									
10	SS11-1	0.2-0.3		Plastic jar			1								
11	SS11	0.4-1.0		plastic bag				1							150 mm core length (quarter core)
12	SS11	comp		plastic bag					1						Composite
13	SS16-1	0.1-0.2		Glass jar		1									
14	SS16-1	0.2-0.3		Plastic jar			1								
15	SS16	0.3-0.6		plastic bag				1							150 mm core length (half core)
16	SS16	comp		plastic bag					1						Composite
17	SS16-2	0.7-0.8		Glass jar											
18	SS16-2	0.8-0.9		Plastic jar											
19	SS19-1	0.1-0.2		Glass jar		1									
20	SS19-1	0.2-0.3		Plastic jar			1								
21	SS19	0.3-0.9		plastic bag					1						Composite
22	SS27-1	0-0.1		Glass jar		1									
23	SS27-1	0.1-0.2		Plastic jar			1								

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: ENVIROLAB J-BOWDEN
Date\time requested: 060920 5pm	Date\time received: 07/09/2020
Signature: JP	Signature:

Additional Comments

Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides

Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling

Job Number : 20085.02

Project Manager: Joe Pedicini

Phone: 0408847239

Email: joe.pedicini@environmentalprojects.com.au

Results to: Lab Results@environmentalprojects.com.au

Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab

Laboratory Quote Ref: DEW Port Stanvac

Secondary Laboratory:

Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 4

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD	Metals	TRH				Additional Comments / Notes
24	SS27	0.2-0.6	5/09/2020	Plastic bag				1							200 mm core length (half core)
25	SS27	comp	↓	Plastic bag					1						Composite
26	EB3			Water						1	1*				*TRH bottle not provided. CG 8/9/20
27	TB			Water							1				

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: ENVIROLAB J-BOWDEN
Date\time requested: 060920 5pm	Date\time received: 07/09/2020
Signature: JP	Signature:

Additional Comments

Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides

Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
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16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

DATA QUALITY ASSESSMENT SUMMARY

Report Details

Envirolab Report Reference	**249740**
Client ID	Department for Environment and Water (SA)
Project Reference	Port Stanvac Sediment Sampling- 20085.02
Date Issued	22/10/2020

QC DATA

All laboratory QC data was within the Envirolab Group's specifications.

HOLDING TIME COMPLIANCE EVALUATION

All preservation / holding times (based on AS/ASPHA/ISO/NEPM/USEPA reference documents and standards) are compliant except:

Holding Time Exceedances

Analysis	Sample No	Date Sampled	Date Extracted	Date Analysed	Accepted
External Testing					
	249740-4	05/09/2020			##
	249740-8	05/09/2020			##
	249740-12	05/09/2020			##
	249740-16	05/09/2020			##
	249740-21	05/09/2020			##
	249740-25	05/09/2020			##

Holding Table Comments

No Extract or Analysed Dates were provided. Holding Times cannot be calculated.

Certain analyses have had their recommended technical holding times elongated by filtering and/or freezing on receipt at the laboratory (e.g. BOD, chlorophyll/Pheophytin, nutrients and acid sulphate soil tests).

COMPLIANCE TO QC FREQUENCY (NEPM)

Internal laboratory QC rate complies with NEPM requirements (LCS/MB/MS 1 in 20, Duplicates 1 in 10 samples). Note, samples are batched together with other sample consignments in order to assign QC sample frequency.

QC Evaluation

Duplicate(s) was performed as per NEPM frequency	✓
Laboratory Control Sample(s) were analysed with the samples received	✓
A Method Blank was performed with the samples received	✓
Matrix spike(s) was performed as per NEPM frequency (Not Applicable for Air samples)	✓

Refer to Certificate of Analysis for all Quality Control data.

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CERTIFICATE OF ANALYSIS 250072

Client Details

Client	Department for Environment and Water (SA)
Attention	Joe Pedicini
Address	81-95 Waymouth Street, ADELAIDE, SA, 5001

Sample Details

Your Reference	**Port Stanvac Sediment Sampling- 20085.02**
Number of Samples	23 Sediment and 1 Water
Date samples received	14/09/2020
Date completed instructions received	14/09/2020

Analysis Details

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

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

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

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

Report Details

Date results requested by	30/09/2020
Date of Issue	30/09/2020

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

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

Results Approved By
David Williams, Group Organics Manager
Heram Halim, Operations Manager
Huong Tran, Chemist
Michael Kubiak, Laboratory Manager
Travis Carey, Organics - Team Leader

Authorised By

Michael Kubiak, Laboratory Manager

Miscellaneous Inorg - soil						
Our Reference		250072-1	250072-3	250072-5	250072-7	250072-10
Your Reference	UNITS	SS04	SS04	SS05	SS05	SS10
Depth		0-0.1	0.2-0.6	0-0.2	0.4-1.0	0.1-0.2
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	18/09/2020	18/09/2020	18/09/2020	18/09/2020	18/09/2020
Date analysed	-	18/09/2020	18/09/2020	18/09/2020	18/09/2020	18/09/2020
pH	pH Units	8.1	[NA]	7.7	[NA]	7.8
Bulk Density*	g/cm3	[NA]	1.78	[NA]	1.20	[NA]

Miscellaneous Inorg - soil						
Our Reference		250072-11	250072-13	250072-16	250072-18	250072-22
Your Reference	UNITS	SS10	SS31	SS32-1	SS32	DUP 3
Depth		0.6-0.8	0.1-0.2	0.1-0.2	0.4-1.0	-
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	18/09/2020	18/09/2020	18/09/2020	18/09/2020	18/09/2020
Date analysed	-	18/09/2020	18/09/2020	18/09/2020	18/09/2020	18/09/2020
pH	pH Units	[NA]	7.9	8.2	[NA]	8.0
Bulk Density*	g/cm3	1.35	[NA]	[NA]	1.89	[NA]
Total Cyanide	mg/kg	[NA]	[NA]	<0.25	[NA]	[NA]

Nutrients in Soil						
Our Reference		250072-1	250072-5	250072-10	250072-13	250072-16
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0-0.1	0-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Date analysed	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Total Nitrogen	mg/kg	210	88	220	160	120
Total Kjeldahl Nitrogen	mg/kg	210	88	220	160	120
NOx as N (1:5 soil:water)	mg/kg	0.11	<0.1	<0.1	<0.1	<0.1
Nitrate-N	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite-N	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia as N (1:5 KCl extract)	mg/kg	3.1	3.0	3.4	3.2	3.4
Total Phosphorus	mg/kg	430	120	180	170	130
Organic N	mg/kg	200	85	220	150	120
Phosphate as P	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Nutrients in Soil		
Our Reference		250072-22
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Date prepared	-	17/09/2020
Date analysed	-	17/09/2020
Total Nitrogen	mg/kg	160
Total Kjeldahl Nitrogen	mg/kg	160
NOx as N (1:5 soil:water)	mg/kg	<0.1
Nitrate-N	mg/kg	<0.1
Nitrite-N	mg/kg	<0.1
Ammonia as N (1:5 KCl extract)	mg/kg	3.0
Total Phosphorus	mg/kg	78
Organic N	mg/kg	150
Phosphate as P	mg/kg	<0.5

Metals in sediment						
Our Reference		250072-1	250072-5	250072-10	250072-13	250072-16
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0-0.1	0-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date digested	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Date analysed	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Aluminium	mg/kg	2,500	1,200	1,900	1,300	1,700
Antimony	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5
Arsenic	mg/kg	25	3.8	6.8	8.1	4.6
Cadmium	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	mg/kg	14	4.6	7.7	6.3	6.0
Cobalt	mg/kg	0.6	<0.5	0.6	<0.5	0.5
Copper	mg/kg	0.9	0.8	1.2	0.7	1.0
Iron	mg/kg	10,000	2,400	4,800	4,100	3,900
Lead	mg/kg	3.2	1.6	3.6	2.9	3.4
Manganese	mg/kg	49	31	31	30	36
Mercury	mg/kg	0.02	<0.01	0.01	0.01	0.01
Nickel	mg/kg	1.7	1.1	1.8	1.2	1.8
Selenium	mg/kg	0.2	<0.1	0.2	0.1	0.1
Silver	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	mg/kg	38	6.2	14	13	9.3
Zinc	mg/kg	4.6	3.3	6.1	5.1	6.5

Metals in sediment		
Our Reference		250072-22
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Date digested	-	17/09/2020
Date analysed	-	17/09/2020
Aluminium	mg/kg	750
Antimony	mg/kg	<0.5
Arsenic	mg/kg	2.5
Cadmium	mg/kg	<0.1
Chromium	mg/kg	3.4
Cobalt	mg/kg	<0.5
Copper	mg/kg	<0.5
Iron	mg/kg	1,800
Lead	mg/kg	1.3
Manganese	mg/kg	22
Mercury	mg/kg	<0.01
Nickel	mg/kg	0.8
Selenium	mg/kg	<0.1
Silver	mg/kg	<0.1
Vanadium	mg/kg	4.6
Zinc	mg/kg	2.6

VHC's in soil						
Our Reference		250072-1	250072-5	250072-10	250072-13	250072-16
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0-0.1	0-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	16/09/2020	16/09/2020	16/09/2020	16/09/2020	16/09/2020
Date analysed	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
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
Carbon tetrachloride	mg/kg	<1	<1	<1	<1	<1
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
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
Bromoform	mg/kg	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	mg/kg	<1	<1	<1	<1	<1
1,2,3-trichloropropane	mg/kg	<1	<1	<1	<1	<1

VHC's in soil						
Our Reference		250072-1	250072-5	250072-10	250072-13	250072-16
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0-0.1	0-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Bromobenzene	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-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,4-dichlorobenzene	mg/kg	<1	<1	<1	<1	<1
1,2-dichlorobenzene	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	97	100	98	99
Surrogate aaa-Trifluorotoluene	%	111	102	76	102	95
Surrogate Toluene-d_8	%	98	99	99	100	98
Surrogate 4-Bromofluorobenz	%	99	101	101	101	99

VHC's in soil		
Our Reference		250072-22
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	16/09/2020
Date analysed	-	17/09/2020
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
Carbon tetrachloride	mg/kg	<1
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
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
Bromoform	mg/kg	<1
1,1,2,2-tetrachloroethane	mg/kg	<1
1,2,3-trichloropropane	mg/kg	<1

VHC's in soil		
Our Reference		250072-22
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Bromobenzene	mg/kg	<1
2-chlorotoluene	mg/kg	<1
4-chlorotoluene	mg/kg	<1
1,3-dichlorobenzene	mg/kg	<1
1,4-dichlorobenzene	mg/kg	<1
1,2-dichlorobenzene	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	%	101
Surrogate aaa-Trifluorotoluene	%	96
Surrogate Toluene-d_8	%	97
Surrogate 4-Bromofluorobenz	%	103

TRH in Sediment (C6-C9) + BTEX						
Our Reference		250072-1	250072-5	250072-10	250072-13	250072-16
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0-0.1	0-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	16/09/2020	16/09/2020	16/09/2020	16/09/2020	16/09/2020
Date analysed	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
m+p-xylene	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
o-xylene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Xylenes (total)	mg/kg	<0.6	<0.6	<0.6	<0.6	<0.6
Surrogate aaa-Trifluorotoluene	%	101	93	69	93	86

TRH in Sediment (C6-C9) + BTEX		
Our Reference		250072-22
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	16/09/2020
Date analysed	-	17/09/2020
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.2
Ethylbenzene	mg/kg	<0.2
m+p-xylene	mg/kg	<0.4
o-xylene	mg/kg	<0.2
Xylenes (total)	mg/kg	<0.6
Surrogate aaa-Trifluorotoluene	%	87

sTRH in Sediment (C10-C36)						
Our Reference		250072-1	250072-5	250072-10	250072-13	250072-16
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0-0.1	0-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	16/09/2020	16/09/2020	16/09/2020	16/09/2020	16/09/2020
Date analysed	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
TRH C_{10} - C_{14}	mg/kg	<25	<25	<25	<25	<25
TRH C_{15} - C_{28}	mg/kg	<25	<25	<25	<25	<25
TRH C_{29} - C_{36}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (C10-C36)	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} - C_{16}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{16} - C_{34}	mg/kg	<25	<25	<25	<25	<25
TRH >C_{34} - C_{40}	mg/kg	<25	<25	<25	<25	<25
Summed total TRH's (>C10-C40)	mg/kg	<100	<100	<100	<100	<100

sTRH in Sediment (C10-C36)		
Our Reference		250072-22
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	16/09/2020
Date analysed	-	17/09/2020
TRH C_{10} - C_{14}	mg/kg	<25
TRH C_{15} - C_{28}	mg/kg	<25
TRH C_{29} - C_{36}	mg/kg	<25
Summed total TRH's (C10-C36)	mg/kg	<100
TRH >C_{10} - C_{16}	mg/kg	<25
TRH >C_{16} - C_{34}	mg/kg	<25
TRH >C_{34} - C_{40}	mg/kg	<25
Summed total TRH's (>C10-C40)	mg/kg	<100

PAHs in Sediment (NAGD)						
Our Reference		250072-1	250072-5	250072-10	250072-13	250072-16
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0-0.1	0-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	16/09/2020	16/09/2020	16/09/2020	16/09/2020	16/09/2020
Date analysed	-	24/09/2020	24/09/2020	24/09/2020	24/09/2020	24/09/2020
Naphthalene	µg/kg	<5	<5	<5	<5	<5
2-Methylnaphthalene	µg/kg	<5	<5	<5	<5	<5
Acenaphthylene	µg/kg	<5	<5	<5	<5	<5
Acenaphthene	µg/kg	<5	<5	<5	<5	<5
Fluorene	µg/kg	<5	<5	<5	<5	<5
Phenanthrene	µg/kg	<5	<5	<5	<5	<5
Anthracene	µg/kg	<5	<5	<5	<5	<5
Fluoranthene	µg/kg	<5	<5	<5	<5	<5
Pyrene	µg/kg	<5	<5	<5	<5	<5
Benzo(a)anthracene	µg/kg	<5	<5	<5	<5	<5
Chrysene	µg/kg	<5	<5	<5	<5	<5
Benzo(b,j+k)fluoranthene	µg/kg	<10	<10	<10	<10	<10
Benzo(e)pyrene	µg/kg	<5	<5	<5	<5	<5
Benzo(a)pyrene	µg/kg	<5	<5	<5	<5	<5
Perylene	µg/kg	<5	<5	<5	<5	<5
Indeno(1,2,3-c,d)pyrene	µg/kg	<5	<5	<5	<5	<5
Dibenzo(a,h)anthracene	µg/kg	<5	<5	<5	<5	<5
Benzo(g,h,i)perylene	µg/kg	<5	<5	<5	<5	<5
Coronene	µg/kg	<5	<5	<5	<5	<5
Surrogate p-Terphenyl-D_{14}	%	73	70	66	64	62

PAHs in Sediment (NAGD)		
Our Reference		250072-22
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	16/09/2020
Date analysed	-	24/09/2020
Naphthalene	µg/kg	<5
2-Methylnaphthalene	µg/kg	<5
Acenaphthylene	µg/kg	<5
Acenaphthene	µg/kg	<5
Fluorene	µg/kg	<5
Phenanthrene	µg/kg	<5
Anthracene	µg/kg	<5
Fluoranthene	µg/kg	<5
Pyrene	µg/kg	<5
Benzo(a)anthracene	µg/kg	<5
Chrysene	µg/kg	<5
Benzo(b,j+k)fluoranthene	µg/kg	<10
Benzo(e)pyrene	µg/kg	<5
Benzo(a)pyrene	µg/kg	<5
Perylene	µg/kg	<5
Indeno(1,2,3-c,d)pyrene	µg/kg	<5
Dibenzo(a,h)anthracene	µg/kg	<5
Benzo(g,h,i)perylene	µg/kg	<5
Coronene	µg/kg	<5
Surrogate p-Terphenyl-D_{14}	%	62

Speciated Phenols in Soil						
Our Reference		250072-1	250072-5	250072-10	250072-13	250072-16
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0-0.1	0-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date extracted	-	25/09/2020	25/09/2020	25/09/2020	25/09/2020	25/09/2020
Date analysed	-	25/09/2020	25/09/2020	25/09/2020	25/09/2020	25/09/2020
Phenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Chlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
4-Chloro-3-methylphenol	mg/kg	<5	<5	<5	<5	<5
2-Methylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
3/4-Methylphenol	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
2-Nitrophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,6-Dichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dinitrophenol	mg/kg	<4	<4	<4	<4	<4
4-Nitrophenol	mg/kg	<4	<4	<4	<4	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10	<10	<10	<10	<10
Pentachlorophenol	mg/kg	<5	<5	<5	<5	<5
Surrogate Phenol-d_6	%	98	98	98	94	93
Surrogate 2-fluorophenol	%	90	95	88	88	89

Speciated Phenols in Soil		
Our Reference		250072-22
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	25/09/2020
Date analysed	-	25/09/2020
Phenol	mg/kg	<0.2
2-Chlorophenol	mg/kg	<0.2
4-Chloro-3-methylphenol	mg/kg	<5
2-Methylphenol	mg/kg	<0.2
3/4-Methylphenol	mg/kg	<0.4
2-Nitrophenol	mg/kg	<0.2
2,4-Dimethylphenol	mg/kg	<0.2
2,4-Dichlorophenol	mg/kg	<0.2
2,6-Dichlorophenol	mg/kg	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2
2,4-Dinitrophenol	mg/kg	<4
4-Nitrophenol	mg/kg	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10
Pentachlorophenol	mg/kg	<5
Surrogate Phenol-d_6	%	90
Surrogate 2-fluorophenol	%	85

OCP in Sediment (NAGD)		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	16/09/2020
Date analysed	-	17/09/2020
Hexachlorobenzene (HCB)	µg/kg	<1
a-BHC	µg/kg	<1
b-BHC	µg/kg	<1
Lindane (g-BHC)	µg/kg	<1
d-BHC	µg/kg	<1
Heptachlor	µg/kg	<1
Aldrin	µg/kg	<1
Heptachlor Epoxide	µg/kg	<1
a-chlordane	µg/kg	<1
g-Chlordane	µg/kg	<1
a-endosulphan	µg/kg	<1
p,p'-DDE	µg/kg	<1
Dieldrin	µg/kg	<1
Endrin	µg/kg	<1
p,p'-DDD	µg/kg	<1
b-endosulphan	µg/kg	<1
Endosulfan Sulphate	µg/kg	<1
p,p'-DDT	µg/kg	<1
Methoxychlor	µg/kg	<1
Oxychlordane	µg/kg	<1
Surrogate 2-chlorophenol-d4	%	94

OPP in Sediment (NAGD)		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	16/09/2020
Date analysed	-	17/09/2020
Diazinon	µg/kg	<50
Dimethoate	µg/kg	<50
Chlorpyrifos-methyl	µg/kg	<50
Parathion-methyl	µg/kg	<50
Ronnel	µg/kg	<50
Fenitrothion	µg/kg	<50
Malathion	µg/kg	<50
Chlorpyrifos	µg/kg	<50
Fenthion	µg/kg	<50
Parathion-ethyl	µg/kg	<50
Ethion	µg/kg	<50
Bromophos Ethyl	µg/kg	<50
Surrogate 2-chlorophenol-d4	%	94

PCB in Sediment (NAGD)		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	16/09/2020
Date analysed	-	17/09/2020
PCB C28	µg/kg	<0.5
PCB C52	µg/kg	<0.5
PCB C101	µg/kg	<0.5
PCB C118	µg/kg	<0.5
PCB C138	µg/kg	<0.5
PCB C153	µg/kg	<0.5
PCB C180	µg/kg	<0.5
Total PCB calc.	µg/kg	<5
Surrogate 2-fluorobiphenyl	%	92

SVCH's in Soil		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	25/09/2020
Date analysed	-	25/09/2020
1,3-Dichlorobenzene	mg/kg	<0.5
1,4-Dichlorobenzene	mg/kg	<0.5
1,2-Dichlorobenzene	mg/kg	<0.5
Hexachloroethane	mg/kg	<0.5
1,2,3-Trichlorobenzene	mg/kg	<0.5
1,2,4-Trichlorobenzene	mg/kg	<0.5
1,3,5-Trichlorobenzene	mg/kg	<0.5
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	<0.5
1,2,3,4-Tetrachlorobenzene	mg/kg	<0.5
Hexachlorocyclopentadiene	mg/kg	<2
Hexachlorobutadiene	mg/kg	<0.5
Pentachlorobenzene	mg/kg	<0.5
Hexachlorobenzene (HCB)	mg/kg	<0.5
Surrogate p-Terphenyl-D_{14}	%	120

Carbamates in soil		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	25/09/2020
Date analysed	-	25/09/2020
Carbaryl	mg/kg	<0.5
Carbofuran	mg/kg	<0.5
Molinate	mg/kg	<0.5
Surrogate p-Terphenyl-D_{14}	%	120

Synthetic Pyrethroids in soil		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	25/09/2020
Date analysed	-	25/09/2020
Bifenthrin	mg/kg	<0.2
Cyfluthrin	mg/kg	<0.1
Cypermethrin	mg/kg	<0.1
Deltamethrin	mg/kg	<0.2
Esfenvalerate	mg/kg	<0.2
Lamda-cyhalothrin	mg/kg	<0.2
cis-Permethrin	mg/kg	<0.2
trans-Permethrin	mg/kg	<0.2
Surrogate p-Terphenyl-D_{14}	%	120

Triazine Herbicides in soil		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	25/09/2020
Date analysed	-	25/09/2020
Ametryn	mg/kg	<0.5
Atrazine	mg/kg	<0.5
Cyanazine	mg/kg	<0.5
Hexazinone	mg/kg	<0.5
Prometryn	mg/kg	<0.5
Simazine	mg/kg	<0.5
Terbutryn	mg/kg	<0.5
Propazine	mg/kg	<0.5
Irgarol	mg/kg	<0.5
Metribuzin	mg/kg	<0.5
Terbutylazine	mg/kg	<0.5
Surrogate p-Terphenyl-D_{14}	%	120

Dioxins/Furans in Soil		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	17/09/2020
Date analysed	-	20/09/2020
2,3,7,8-TCDD *	pg/g	<1
2,3,7,8-TCDD WHO-TEQ_1 (zero)	pg/g	0
2,3,7,8-TCDD WHO-TEQ_2 (0.5 PQL)	pg/g	0.5
2,3,7,8-TCDD WHO-TEQ_3 PQL	pg/g	1
2,3,7,8-TCDD I-TEQ_1 (zero)	pg/g	0
2,3,7,8-TCDD I-TEQ_2 (0.5 PQL)	pg/g	0.5
2,3,7,8-TCDD I-TEQ_3 PQL	pg/g	1
$^{13}C_{12}$ Rec	%	100
1,2,3,7,8-PeCDD *	pg/g	<5
1,2,3,7,8-PeCDD WHO-TEQ_1 (zero)	pg/g	0
1,2,3,7,8-PeCDD WHO-TEQ_2 (0.5 PQL)	pg/g	2
1,2,3,7,8-PeCDD WHO-TEQ_3 PQL	pg/g	5
1,2,3,7,8-PeCDD I-TEQ_1 zero	pg/g	0
1,2,3,7,8-PeCDD I-TEQ_2 0.5 (PQL)	pg/g	1
1,2,3,7,8-PeCDD I-TEQ_3 (PQL)	pg/g	2
$^{13}C_{12}$ Rec	%	99
1,2,3,4,7,8-HxCDD *	pg/g	<5
1,2,3,4,7,8-HxCDD WHO-TEQ_1 (zero)	pg/g	0
1,2,3,4,7,8-HxCDD WHO-TEQ_2 (0.5 PQL)	pg/g	0.2
1,2,3,4,7,8-HxCDD WHO-TEQ_3 (PQL)	pg/g	0.5
1,2,3,4,7,8-HxCDD I-TEQ_1 zero	pg/g	0
1,2,3,4,7,8-HxCDD I-TEQ_2 0.5 (PQL)	pg/g	0.2
1,2,3,4,7,8-HxCDD I-TEQ_3 PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	85
1,2,3,4,7,8-HxCDD *	pg/g	<5
1,2,3,6,7,8-HxCDD WHO-TEQ_1 (zero)	pg/g	0
1,2,3,6,7,8-HxCDD WHO-TEQ_2 0.5 PQL	pg/g	0.2
1,2,3,6,7,8-HxCDD WHO-TEQ_3 (PQL)	pg/g	0.5
1,2,3,6,7,8-HxCDD I-TEQ_1 (zero)	pg/g	0
1,2,3,6,7,8-HxCDD I-TEQ_2 0.5 PQL	pg/g	0.2
1,2,3,6,7,8-HxCDD I-TEQ_3 PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	75
1,2,3,4,7,8-HxCDD *	pg/g	<5

Dioxins/Furans in Soil		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
1,2,3,7,8,9-HxCDD WHO-TEQ_1 zero	pg/g	0
1,2,3,7,8,9-HxCDD WHO-TEQ_2 0.5 PQL	pg/g	0.2
1,2,3,7,8,9-HxCDD WHO-TEQ_3 PQL	pg/g	0.5
1,2,3,7,8,9-HxCDD I-TEQ_1 zero	pg/g	0
1,2,3,7,8,9-HxCDD I-TEQ_2 0.5 PQL	pg/g	0.2
1,2,3,7,8,9-HxCDD I-TEQ_3 PQL	pg/g	0.5
1,2,3,4,6,7,8-HpCDD *	pg/g	<5
1,2,3,4,6,7,8-HpCDD WHO-TEQ_1 zero	pg/g	0
1,2,3,4,6,7,8-HpCDD WHO-TEQ_2 0.5 PQL	pg/g	0.02
1,2,3,4,6,7,8-HpCDD WHO-TEQ_3 PQL	pg/g	0.05
1,2,3,4,6,7,8-HpCDD I-TEQ_1 zero	pg/g	0
1,2,3,4,6,7,8-HpCDD I-TEQ_2 0.5 PQL	pg/g	0.02
1,2,3,4,6,7,8-HpCDD I-TEQ_3 PQL	pg/g	0.05
$^{13}C_{12}$ Rec	%	103
OCDD*	pg/g	10
OCDD WHO-TEQ_1 zero	pg/g	0.003
OCDD WHO-TEQ_2 0.5 PQL	pg/g	0.003
OCDD WHO-TEQ_3 PQL	pg/g	0.003
OCDD I-TEQ_1 zero	pg/g	0.01
OCDD I-TEQ_2 0.5 PQL	pg/g	0.01
OCDD I-TEQ_3 PQL	pg/g	0.01
$^{13}C_{12}$ Rec	%	112
2,3,7,8-TCDF *	pg/g	<1
2,3,7,8-TCDF WHO-TEQ_1 zero	pg/g	0
2,3,7,8-TCDF WHO-TEQ_2 (0.5 PQL)	pg/g	0.05
2,3,7,8-TCDF WHO-TEQ_3 PQL	pg/g	0.1
2,3,7,8-TCDF I-TEQ_1 zero	pg/g	0
2,3,7,8-TCDF I-TEQ_2 0.5 PQL	pg/g	0.05
2,3,7,8-TCDF I-TEQ_3 PQL	pg/g	0.1
$^{13}C_{12}$ Rec	%	103
1,2,3,7,8-PeCDF *	pg/g	<5
1,2,3,7,8-PeCDF WHO-TEQ_1 zero	pg/g	0
1,2,3,7,8-PeCDF WHO-TEQ_2 (0.5 PQL)	pg/g	0.08
1,2,3,7,8-PeCDF WHO-TEQ_3 PQL	pg/g	0.2
1,2,3,7,8-PeCDF I-TEQ_1 zero	pg/g	0
1,2,3,7,8-PeCDF I-TEQ_2 0.5 PQL	pg/g	0.1

Dioxins/Furans in Soil		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
1,2,3,7,8-PeCDF I-TEQ$_3$ PQL	pg/g	0.2
$^{13}C_{12}$ Rec	%	102
1,2,3,7,8-PeCDF *	pg/g	<5
2,3,4,7,8-PeCDF WHO-TEQ$_1$	pg/g	0
2,3,4,7,8-PeCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.8
2,3,4,7,8-PeCDF WHO-TEQ$_3$ PQL	pg/g	1.5
2,3,4,7,8-PeCDF I-TEQ$_1$ zero	pg/g	0
2,3,4,7,8-PeCDF I-TEQ$_2$ 0.5 PQL	pg/g	1.2
2,3,4,7,8-PeCDF I-TEQ$_3$ PQL	pg/g	2.5
$^{13}C_{12}$ Rec	%	102
1,2,3,4,7,8-HxCDF *	pg/g	<5
1,2,3,4,7,8-HxCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,4,7,8-HxCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.2
1,2,3,4,7,8-HxCDF WHO-TEQ$_3$ PQL	pg/g	0.5
1,2,3,4,7,8-HxCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,4,7,8-HxCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.2
1,2,3,4,7,8-HxCDF I-TEQ$_3$ PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	98
1,2,3,4,7,8-HxCDF *	pg/g	<5
1,2,3,6,7,8-HxCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,6,7,8-HxCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.2
1,2,3,6,7,8-HxCDF WHO-TEQ$_3$ PQL	pg/g	0.5
1,2,3,6,7,8-HxCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,6,7,8-HxCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.2
1,2,3,6,7,8-HxCDF I-TEQ$_3$ PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	94
1,2,3,4,7,8-HxCDF *	pg/g	<5
1,2,3,7,8,9-HxCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,7,8,9-HxCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.2
1,2,3,7,8,9-HxCDF WHO-TEQ$_3$ PQL	pg/g	0.5
1,2,3,7,8,9-HxCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,7,8,9-HxCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.2
1,2,3,7,8,9-HxCDF I-TEQ$_3$ PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	95
1,2,3,4,7,8-HxCDF *	pg/g	<5
2,3,4,6,7,8-HxCDF WHO-TEQ$_1$ zero	pg/g	0

Dioxins/Furans in Soil		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
2,3,4,6,7,8-HxCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.2
2,3,4,6,7,8-HxCDF WHO-TEQ$_3$ PQL	pg/g	0.5
2,3,4,6,7,8-HxCDF I-TEQ$_1$ zero	pg/g	0
2,3,4,6,7,8-HxCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.2
2,3,4,6,7,8-HxCDF I-TEQ$_3$ PQL	pg/g	0.5
$^{13}C_{12}$ Rec	%	104
1,2,3,4,6,7,8-HpCDF *	pg/g	<5
1,2,3,4,6,7,8-HpCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,4,6,7,8-HpCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.02
1,2,3,4,6,7,8-HpCDF WHO-TEQ$_3$ PQL	pg/g	0.05
1,2,3,4,6,7,8-HpCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,4,6,7,8-HpCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.02
1,2,3,4,6,7,8-HpCDF I-TEQ$_3$ PQL	pg/g	0.05
$^{13}C_{12}$ Rec	%	107
1,2,3,4,6,7,8-HpCDF *	pg/g	<5
1,2,3,4,7,8,9-HpCDF WHO-TEQ$_1$ zero	pg/g	0
1,2,3,4,7,8,9-HpCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.02
1,2,3,4,7,8,9-HpCDF WHO-TEQ$_3$ PQL	pg/g	0.05
1,2,3,4,7,8,9-HpCDF I-TEQ$_1$ zero	pg/g	0
1,2,3,4,7,8,9-HpCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.02
1,2,3,4,7,8,9-HpCDF I-TEQ$_3$ PQL	pg/g	0.05
$^{13}C_{12}$ Rec	%	112
OCDF*	pg/g	<10
OCDF WHO-TEQ$_1$ zero	pg/g	0
OCDF WHO-TEQ$_2$ (0.5 PQL)	pg/g	0.002
OCDF WHO-TEQ$_3$ PQL	pg/g	0.003
OCDF I-TEQ$_1$ zero	pg/g	0
OCDF I-TEQ$_2$ 0.5 PQL	pg/g	0.005
OCDF I-TEQ$_3$ PQL	pg/g	0.01
Total WHO-TEQ$_1$ calc (zero)	pg/g	0.0030
Total WHO-TEQ$_2$ calc (0.5 PQL)	pg/g	5.7
Total WHO-TEQ$_3$ calc (PQL)	pg/g	11
Total I-TEQ$_1$ calc (zero)	pg/g	0.010
Total I-TEQ$_2$ calc (half)	pg/g	5.0
Total I-TEQ$_3$ calc (PQL)	pg/g	10

Organotin Compounds in Soil		
Our Reference		250072-16
Your Reference	UNITS	SS32-1
Depth		0.1-0.2
Date Sampled		09/09/2020
Type of sample		Sediment
Date extracted	-	18/09/2020
Date analysed	-	19/09/2020
Monobutyltin as Sn	µg Sn/kg	4
Dibutyltin as Sn	µg Sn/kg	<0.5
Tributyltin as Sn	µg Sn/kg	<0.5
Surrogate Triphenyltin	%	95

PFAS in Soil Extended						
Our Reference		250072-2	250072-6	250072-9	250072-14	250072-17
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0.1-0.2	0.2-0.4	0-0.1	0.2-0.3	0.2-0.3
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	21/09/2020	21/09/2020	21/09/2020	21/09/2020	21/09/2020
Date analysed	-	21/09/2020	21/09/2020	21/09/2020	21/09/2020	21/09/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ PFOS	%	94	99	100	101	95
Surrogate $^{13}C_2$ PFOA	%	86	85	87	88	85
Extracted ISTD $^{13}C_3$ *PFBS*	%	76	78	71	75	75
Extracted ISTD $^{18}O_2$ *PFHxS*	%	69	77	71	71	72
Extracted ISTD $^{13}C_4$ *PFOS*	%	78	82	77	80	82

PFAS in Soil Extended						
Our Reference		250072-2	250072-6	250072-9	250072-14	250072-17
Your Reference	UNITS	SS04	SS05	SS10	SS31	SS32-1
Depth		0.1-0.2	0.2-0.4	0-0.1	0.2-0.3	0.2-0.3
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Extracted ISTD 13C4 PFBA	%	60	67	62	63	65
Extracted ISTD $^{13}C_3$ *PFPeA*	%	62	67	62	64	65
Extracted ISTD $^{13}C_2$ *PFHxA*	%	89	94	86	90	92
Extracted ISTD $^{13}C_4$ *PFHpA*	%	83	84	76	77	80
Extracted ISTD $^{13}C_4$ *PFOA*	%	97	99	89	93	95
Extracted ISTD $^{13}C_5$ *PFNA*	%	83	84	80	83	82
Extracted ISTD $^{13}C_2$ *PFDA*	%	78	77	73	76	73
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	82	81	80	77	77
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	90	100	97	97	96
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	68	69	64	69	84
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	91	86	72	80	82
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	74	63	60	62	63
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	105	100	94	105	110
Extracted ISTD $^{13}C_8$ *FOSA*	%	81	86	80	82	83
Extracted ISTD d_3 *N MeFOSA*	%	77	87	79	81	81
Extracted ISTD d_5 *N EtFOSA*	%	77	86	80	82	82
Extracted ISTD d_7 *N MeFOSE*	%	116	121	119	120	121
Extracted ISTD d_9 *N EtFOSE*	%	119	132	124	125	126
Extracted ISTD d_3 *N MeFOSAA*	%	88	92	86	90	92
Extracted ISTD d_5 *N EtFOSAA*	%	72	81	74	79	74
Total Positive PFHxS & PFOS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1

PFAS in Soil Extended		
Our Reference		250072-23
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Date prepared	-	21/09/2020
Date analysed	-	21/09/2020
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2
Perfluorobutanoic acid	µg/kg	<0.2
Perfluoropentanoic acid	µg/kg	<0.2
Perfluorohexanoic acid	µg/kg	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1
Perfluorononanoic acid	µg/kg	<0.1
Perfluorodecanoic acid	µg/kg	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5
Perfluorododecanoic acid	µg/kg	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5
Perfluorotetradecanoic acid	µg/kg	<5
4:2 FTS	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.2
10:2 FTS	µg/kg	<0.2
Perfluorooctane sulfonamide	µg/kg	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
Surrogate $^{13}C_8$ PFOS	%	97
Surrogate $^{13}C_2$ PFOA	%	87
Extracted ISTD $^{13}C_3$ *PFBS*	%	76
Extracted ISTD $^{18}O_2$ *PFHxS*	%	74
Extracted ISTD $^{13}C_4$ *PFOS*	%	83

PFAS in Soil Extended		
Our Reference		250072-23
Your Reference	UNITS	DUP 3
Depth		-
Date Sampled		09/09/2020
Type of sample		Sediment
Extracted ISTD 13C4 PFBA	%	65
Extracted ISTD $^{13}C_3$ PFPeA	%	65
Extracted ISTD $^{13}C_2$ PFHxA	%	90
Extracted ISTD $^{13}C_4$ PFHpA	%	82
Extracted ISTD $^{13}C_4$ PFOA	%	93
Extracted ISTD $^{13}C_5$ PFNA	%	79
Extracted ISTD $^{13}C_2$ PFDA	%	71
Extracted ISTD $^{13}C_2$ PFUnDA	%	76
Extracted ISTD $^{13}C_2$ PFDoDA	%	89
Extracted ISTD $^{13}C_2$ PFTeDA	%	80
Extracted ISTD $^{13}C_2$ 4:2FTS	%	81
Extracted ISTD $^{13}C_2$ 6:2FTS	%	66
Extracted ISTD $^{13}C_2$ 8:2FTS	%	85
Extracted ISTD $^{13}C_8$ FOSA	%	82
Extracted ISTD d_3 N MeFOSA	%	81
Extracted ISTD d_5 N EtFOSA	%	81
Extracted ISTD d_7 N MeFOSE	%	118
Extracted ISTD d_9 N EtFOSE	%	125
Extracted ISTD d_3 N MeFOSAA	%	91
Extracted ISTD d_5 N EtFOSAA	%	73
Total Positive PFHxS & PFOS	µg/kg	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1
Total Positive PFAS	µg/kg	<0.1

Moisture						
Our Reference		250072-1	250072-2	250072-5	250072-6	250072-9
Your Reference	UNITS	SS04	SS04	SS05	SS05	SS10
Depth		0-0.1	0.1-0.2	0-0.2	0.2-0.4	0-0.1
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	16/09/2020	16/09/2020	16/09/2020	16/09/2020	16/09/2020
Date analysed	-	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
Moisture	%	21	24	20	35	18

Moisture						
Our Reference		250072-10	250072-13	250072-14	250072-16	250072-17
Your Reference	UNITS	SS10	SS31	SS31	SS32-1	SS32-1
Depth		0.1-0.2	0.1-0.2	0.2-0.3	0.1-0.2	0.2-0.3
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
Date prepared	-	16/09/2020	16/09/2020	16/09/2020	18/09/2020	16/09/2020
Date analysed	-	17/09/2020	17/09/2020	17/09/2020	21/09/2020	17/09/2020
Moisture	%	24	21	18	21	19

Moisture			
Our Reference		250072-22	250072-23
Your Reference	UNITS	DUP 3	DUP 3
Depth		-	-
Date Sampled		09/09/2020	09/09/2020
Type of sample		Sediment	Sediment
Date prepared	-	16/09/2020	16/09/2020
Date analysed	-	17/09/2020	17/09/2020
Moisture	%	19	19

External Testing						
Our Reference		250072-4	250072-5	250072-8	250072-12	250072-15
Your Reference	UNITS	SS04	SS05	SS05	SS10	SS31
Depth		comp	0-0.2	comp	0-0.4	comp
Date Sampled		09/09/2020	09/09/2020	09/09/2020	09/09/2020	09/09/2020
Type of sample		Sediment	Sediment	Sediment	Sediment	Sediment
MicroAnalysis ID		#	[NA]	#	#	#
$CaCO_3$ Content by XRF		[NA]	#	[NA]	[NA]	[NA]

External Testing		
Our Reference		250072-19
Your Reference	UNITS	SS32
Depth		0.3-0.9
Date Sampled		09/09/2020
Type of sample		Sediment
MicroAnalysis ID		#

vTRH(C6-C10)/MBTEXN in water		
Our Reference		250072-24
Your Reference	UNITS	TB
Depth		-
Date Sampled		09/09/2020
Type of sample		Water
Date analysed	-	17/09/2020
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6-C_{10} less BTEX (F1)	µg/L	<10
MTBE	µg/L	<1
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	94
Surrogate toluene-d8	%	97
Surrogate 4-BFB	%	100

Method ID	Methodology Summary
AGRI-001	Plant available Sulphur is determined by extraction with 0.25 M Potassium Chloride at 40°C for 3 hours. The resultant extract is then analysed by ICPAES.
Ext-059	Analysed by Microanalysis Australia.
EXT-091	Analysed by Greencap in-house method LOP-005 X-Ray Diffraction
INORG series	Determination of constituents in waters using colourimetric chemistry
INORG-001	pH - Measured using pH meter and electrode base on APHA latest edition, Method 4500-H+. Please note that the results for water analyses may be indicative only, as analysis can be completed outside of the APHA recommended holding times. Soils are reported from a 1:5 water extract unless otherwise specified.
INORG-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
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-055	Nitrite - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	Nitrate - determined colourimetrically. Soils are analysed from a water extract.
INORG-055	NOx - determined colourimetrically. Soils are analysed from a water extract.
INORG-057	Ammonia by colourimetric analysis based on APHA latest edition 4500-NH3 F.
INORG-060	Phosphate- determined colourimetrically. Soils are analysed from a water extract.
INORG-062	TKN - determined colourimetrically based on APHA latest edition Norg C.
METALS-020	Determination of various metals by ICP-AES.
METALS-021	Determination of Mercury by Cold Vapour AAS. For urine samples total Mercury is determined, however, mercury in urine is almost entirely in the inorganic form (CDC).
METALS-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Due to issues such as environmental weathering, and the sample preparation required to do ultra low levels, reliable identification of the Arochlor may not be possible, and so reporting the total PCBs as an Arochlor is not recommended. The Total PCB is calculated by summing 6 of the 7 congeners and multiplying this by 5 (according to DIN 51 527). The PCB congener C118 is excluded from the calculation.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
ORG-023	VOC's in soil by methanolic extraction and water directly by purge and trap GC-MS.
Org-025	Water samples are extracted with DCM and concentrated. The extract is analysed by GC-MSMS for selected Dioxin and Furans. Soils and Sorbents are solvent extracted, followed by an extract clean-up and GC/MSMS analysis. 1. I -TEQ(zero) and WHO-TEQ(zero) calculated where analyte components that are <PQL are considered to be zero in the TEQ calculation. Where all sample analyte results are <PQL, the calculated sample TEQ = 0, this is due to the calculation being an arithmetic formula and therefore does not reflect the associated PQLs. 2. I -TEQ(0.5) and WHO-TEQ(0.5) calculated where analyte components that are <PQL are considered to be 0.5 * the component PQL in the TEQ calculation. 3. I-TEQ(PQL) and WHO-TEQ(PQL) calculated where analyte components that are <PQL are considered to be equal to the component PQL in the TEQ calculation. 13C12 Rec is the recovery of Isotopically labelled compound added by the Laboratory for quantification and to measure extraction efficiency. I-TEF - International toxic equivalency factor I-TEQ - International toxic equivalence WHO-TEF - World Health Organisation toxic equivalency factor WHO-TEQ - World Health Organisation toxic equivalence TEQ values are rounded to the same number of significant figures as the raw results for consistency and therefore may not calculate out exactly as PQL * TEF, given rounded up or down as appropriate.
Org-025/026	Water extracts are derivatised and extracted. Soils are extracted with a mix of water and methanolic KOH solution, neutralised and then derivatised and further extracted. The extracts are analysed by GC-MSMS. Alternatively, analyse directly by HS-GC-MSMS.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated after SPE. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.
USEPA Method 1613	Analysis of Dioxins and Furans based on USEPA Method 1613. 1. I -TEQ(zero) and WHO-TEQ(zero) calculated treating <PQL as zero concentration 2. I -TEQ(0.5) and WHO-TEQ(0.5) calculated treating <PQL as 0.5 PQL concentration 3. I-TEQ(PQL) and WHO-TEQ(PQL) calculated treating <PQL as PQL concentration

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			18/09/2020	1	18/09/2020	18/09/2020		18/09/2020	[NT]
Date analysed	-			18/09/2020	1	18/09/2020	18/09/2020		18/09/2020	[NT]
pH	pH Units		INORG-001	[NT]	1	8.1	8.1	0	101	[NT]
Total Cyanide	mg/kg	0.25	INORG-014	<0.25	16	<0.25	<0.25	0	99	[NT]

QUALITY CONTROL: Miscellaneous Inorg - soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	16	18/09/2020	18/09/2020		[NT]	[NT]
Date analysed	-			[NT]	16	18/09/2020	18/09/2020		[NT]	[NT]
pH	pH Units		INORG-001	[NT]	16	8.2	[NT]		[NT]	[NT]

QUALITY CONTROL: Nutrients in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-5
Date prepared	-			17/09/2020	1	17/09/2020	17/09/2020		17/09/2020	17/09/2020
Date analysed	-			17/09/2020	1	17/09/2020	17/09/2020		17/09/2020	17/09/2020
Total Nitrogen	mg/kg	10	INORG-062	<10	1	210	190	10	90	129
Total Kjeldahl Nitrogen	mg/kg	10	INORG-062	<10	1	210	190	10	90	129
NOx as N (1:5 soil:water)	mg/kg	0.1	INORG-055	<0.1	1	0.11	0.11	0	100	[NT]
Nitrate-N	mg/kg	0.1	INORG-055	<0.1	1	<0.1	<0.1	0	100	[NT]
Nitrite-N	mg/kg	0.1	INORG-055	<0.1	1	<0.1	<0.1	0	104	[NT]
Ammonia as N (1:5 KCl extract)	mg/kg	0.5	INORG-057	<0.5	1	3.1	3.1	0	99	[NT]
Total Phosphorus	mg/kg	10	METALS-020	<10	1	430	[NT]		100	[NT]

QUALITY CONTROL: Metals in sediment						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			17/09/2020	[NT]	[NT]	[NT]	[NT]	17/09/2020	[NT]
Date analysed	-			17/09/2020	[NT]	[NT]	[NT]	[NT]	17/09/2020	[NT]
Aluminium	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Antimony	mg/kg	0.5	METALS-022	<0.5	[NT]	[NT]	[NT]	[NT]	122	[NT]
Arsenic	mg/kg	0.5	METALS-022	<0.5	[NT]	[NT]	[NT]	[NT]	104	[NT]
Cadmium	mg/kg	0.1	METALS-022	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Chromium	mg/kg	0.5	METALS-022	<0.5	[NT]	[NT]	[NT]	[NT]	104	[NT]
Cobalt	mg/kg	0.5	METALS-022	<0.5	[NT]	[NT]	[NT]	[NT]	102	[NT]
Copper	mg/kg	0.5	METALS-022	<0.5	[NT]	[NT]	[NT]	[NT]	102	[NT]
Iron	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	81	[NT]
Lead	mg/kg	0.5	METALS-022	<0.5	[NT]	[NT]	[NT]	[NT]	98	[NT]
Manganese	mg/kg	1	METALS-022	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Mercury	mg/kg	0.01	METALS-021	<0.01	[NT]	[NT]	[NT]	[NT]	100	[NT]
Nickel	mg/kg	0.5	METALS-022	<0.5	[NT]	[NT]	[NT]	[NT]	109	[NT]
Selenium	mg/kg	0.1	METALS-022	<0.1	[NT]	[NT]	[NT]	[NT]	121	[NT]
Silver	mg/kg	0.1	METALS-022	<0.1	[NT]	[NT]	[NT]	[NT]	111	[NT]
Vanadium	mg/kg	0.5	METALS-022	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]
Zinc	mg/kg	0.5	METALS-022	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-1
Date extracted	-			16/09/2020	16	16/09/2020	16/09/2020		16/09/2020	16/09/2020
Date analysed	-			17/09/2020	16	17/09/2020	17/09/2020		17/09/2020	17/09/2020
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	16	<1	<1	0	126	102
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Bromochloromethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Chloroform	mg/kg	1	Org-023	<1	16	<1	<1	0	125	100
2,2-dichloropropane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	16	<1	<1	0	119	96
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	16	<1	<1	0	126	99
1,1-dichloropropene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Dibromomethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Trichloroethene	mg/kg	1	Org-023	<1	16	<1	<1	0	107	82
Bromodichloromethane	mg/kg	1	Org-023	<1	16	<1	<1	0	127	101
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Dibromochloromethane	mg/kg	1	Org-023	<1	16	<1	<1	0	123	101
1,2-dibromoethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Tetrachloroethene	mg/kg	1	Org-023	<1	16	<1	<1	0	127	96
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Chlorobenzene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Bromoform	mg/kg	1	Org-023	<1	16	<1	<1	0	121	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Bromobenzene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	16	<1	<1	0	116	91

QUALITY CONTROL: VHC's in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-1
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	16	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluorometha	%		ORG-023	103	16	99	95	4	101	104
Surrogate aaa-Trifluorotoluene	%		Org-023	72	16	95	108	13	108	103
Surrogate Toluene-d_8	%		ORG-023	98	16	98	98	0	100	100
Surrogate 4-Bromofluorobenz	%		ORG-023	97	16	99	100	1	100	97

QUALITY CONTROL: TRH in Sediment (C6-C9) + BTEX						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-1
Date extracted	-			16/09/2020	16	16/09/2020	16/09/2020		16/09/2020	16/09/2020
Date analysed	-			17/09/2020	16	17/09/2020	17/09/2020		17/09/2020	17/09/2020
TRH C_6 - C_9	mg/kg	25	Org-023	<25	16	<25	<25	0	87	93
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	16	<25	<25	0	87	93
Benzene	mg/kg	0.2	Org-023	<0.2	16	<0.2	<0.2	0	93	101
Toluene	mg/kg	0.2	Org-023	<0.2	16	<0.2	<0.2	0	86	94
Ethylbenzene	mg/kg	0.2	Org-023	<0.2	16	<0.2	<0.2	0	86	92
m+p-xylene	mg/kg	0.4	Org-023	<0.4	16	<0.4	<0.4	0	84	90
o-xylene	mg/kg	0.2	Org-023	<0.2	16	<0.2	<0.2	0	88	93
Surrogate aaa-Trifluorotoluene	%		Org-023	66	16	86	99	14	91	92

QUALITY CONTROL: sTRH in Sediment (C10-C36)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-1
Date extracted	-			16/09/2020	16	16/09/2020	16/09/2020		16/09/2020	16/09/2020
Date analysed	-			17/09/2020	16	17/09/2020	17/09/2020		17/09/2020	17/09/2020
TRH C_{10} - C_{14}	mg/kg	25	Org-020	<25	16	<25	<25	0	87	92
TRH C_{15} - C_{28}	mg/kg	25	Org-020	<25	16	<25	<25	0	102	106
TRH C_{29} - C_{36}	mg/kg	25	Org-020	<25	16	<25	<25	0	91	97
TRH >C_{10} - C_{16}	mg/kg	25	Org-020	<25	16	<25	<25	0	96	101
TRH >C_{16} - C_{34}	mg/kg	25	Org-020	<25	16	<25	<25	0	99	103
TRH >C_{34} - C_{40}	mg/kg	25	Org-020	<25	16	<25	<25	0	95	109

QUALITY CONTROL: PAHs in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-1
Date extracted	-			16/09/2020	16	16/09/2020	16/09/2020		16/09/2020	16/09/2020
Date analysed	-			24/09/2020	16	24/09/2020	24/09/2020		24/09/2020	24/09/2020
Naphthalene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	65	63
2-Methylnaphthalene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Acenaphthylene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Acenaphthene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Fluorene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	71	65
Phenanthrene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	78	70
Anthracene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Fluoranthene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	78	74
Pyrene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	79	73
Benzo(a)anthracene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Chrysene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	93	88
Benzo(b,j+k)fluoranthene	µg/kg	10	Org-022/025	<10	16	<10	<10	0	[NT]	[NT]
Benzo(e)pyrene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Benzo(a)pyrene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	73	73
Perylene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Coronene	µg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	73	16	62	62	0	73	70

QUALITY CONTROL: Speciated Phenols in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-1
Date extracted	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	25/09/2020
Date analysed	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	25/09/2020
Phenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	119	100
2-Chlorophenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	115	99
4-Chloro-3-methylphenol	mg/kg	5	Org-022/025	<5	16	<5	<5	0	[NT]	[NT]
2-Methylphenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	107	91
3/4-Methylphenol	mg/kg	0.4	Org-022/025	<0.4	16	<0.4	<0.4	0	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	111	96
2,4,5-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	4	Org-022/025	<4	16	<4	<4	0	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022/025	<4	16	<4	<4	0	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
2-Methyl-4,6-dinitrophenol	mg/kg	10	Org-022/025	<10	16	<10	<10	0	[NT]	[NT]
Pentachlorophenol	mg/kg	5	Org-022/025	<5	16	<5	<5	0	92	89
Surrogate Phenol-d_6	%		Org-022/025	107	16	93	95	2	105	98
Surrogate 2-fluorophenol	%		Org-022/025	70	16	89	89	0	65	77

QUALITY CONTROL: OCP in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			16/09/2020	16	16/09/2020	16/09/2020		16/09/2020	[NT]
Date analysed	-			17/09/2020	16	17/09/2020	17/09/2020		17/09/2020	[NT]
Hexachlorobenzene (HCB)	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
a-BHC	µg/kg	1	Org-022/025	<1	16	<1	<1	0	81	[NT]
b-BHC	µg/kg	1	Org-022/025	<1	16	<1	<1	0	80	[NT]
Lindane (g-BHC)	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
d-BHC	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
Heptachlor	µg/kg	1	Org-022/025	<1	16	<1	<1	0	80	[NT]
Aldrin	µg/kg	1	Org-022/025	<1	16	<1	<1	0	83	[NT]
Heptachlor Epoxide	µg/kg	1	Org-022/025	<1	16	<1	<1	0	82	[NT]
a-chlordane	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
g-Chlordane	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
a-endosulphan	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
p,p'-DDE	µg/kg	1	Org-022/025	<1	16	<1	<1	0	63	[NT]
Dieldrin	µg/kg	1	Org-022/025	<1	16	<1	<1	0	79	[NT]
Endrin	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
p,p'-DDD	µg/kg	1	Org-022/025	<1	16	<1	<1	0	77	[NT]
b-endosulphan	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
Endosulfan Sulphate	µg/kg	1	Org-022/025	<1	16	<1	<1	0	76	[NT]
p,p'-DDT	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
Methoxychlor	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
Oxychlordane	µg/kg	1	Org-022/025	<1	16	<1	<1	0	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022/025	117	16	94	102	8	106	[NT]

QUALITY CONTROL: OPP in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			16/09/2020	16	16/09/2020	16/09/2020		16/09/2020	[NT]
Date analysed	-			17/09/2020	16	17/09/2020	17/09/2020		17/09/2020	[NT]
Diazinon	µg/kg	50	Org-022/025	<50	16	<50	<50	0	[NT]	[NT]
Dimethoate	µg/kg	50	Org-022/025	<50	16	<50	<50	0	[NT]	[NT]
Chlorpyrifos-methyl	µg/kg	50	Org-022/025	<50	16	<50	<50	0	72	[NT]
Parathion-methyl	µg/kg	50	Org-022/025	<50	16	<50	<50	0	[NT]	[NT]
Ronnel	µg/kg	50	Org-022/025	<50	16	<50	<50	0	[NT]	[NT]
Fenitrothion	µg/kg	50	Org-022/025	<50	16	<50	<50	0	75	[NT]
Malathion	µg/kg	50	Org-022/025	<50	16	<50	<50	0	[NT]	[NT]
Chlorpyrifos	µg/kg	50	Org-022/025	<50	16	<50	<50	0	72	[NT]
Fenthion	µg/kg	50	Org-022/025	<50	16	<50	<50	0	[NT]	[NT]
Parathion-ethyl	µg/kg	50	Org-022/025	<50	16	<50	<50	0	[NT]	[NT]
Ethion	µg/kg	50	Org-022/025	<50	16	<50	<50	0	93	[NT]
Bromophos Ethyl	µg/kg	50	Org-022/025	<50	16	<50	<50	0	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022/025	117	16	94	102	8	106	[NT]

QUALITY CONTROL: PCB in Sediment (NAGD)						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			16/09/2020	16	16/09/2020	16/09/2020		16/09/2020	[NT]
Date analysed	-			17/09/2020	16	17/09/2020	17/09/2020		17/09/2020	[NT]
PCB C28	µg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
PCB C52	µg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
PCB C101	µg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	84	[NT]
PCB C118	µg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
PCB C138	µg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
PCB C153	µg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
PCB C180	µg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	110	16	92	91	1	111	[NT]

QUALITY CONTROL: SVCH's in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	[NT]
Date analysed	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	[NT]
1,3-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
1,4-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	111	[NT]
1,2-Dichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Hexachloroethane	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
1,2,3-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
1,2,4-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	103	[NT]
1,3,5-Trichlorobenzene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
1,2,3,5 & 1,2,4,5- Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
1,2,3,4-Tetrachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Hexachlorocyclopentadiene	mg/kg	2	Org-022/025	<2	16	<2	<2	0	[NT]	[NT]
Hexachlorobutadiene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Pentachlorobenzene	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Hexachlorobenzene (HCB)	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	110	16	120	103	15	122	[NT]

QUALITY CONTROL: Carbamates in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	[NT]
Date analysed	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	[NT]
Carbaryl	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Carbofuran	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	120	[NT]
Molinate	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	110	16	120	103	15	122	[NT]

QUALITY CONTROL: Synthetic Pyrethroids in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	[NT]
Date analysed	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	[NT]
Bifenthrin	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	124	[NT]
Cyfluthrin	mg/kg	0.1	Org-022/025	<0.1	16	<0.1	<0.1	0	[NT]	[NT]
Cypermethrin	mg/kg	0.1	Org-022/025	<0.1	16	<0.1	<0.1	0	[NT]	[NT]
Deltamethrin	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
Esfenvalerate	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
Lamda-cyhalothrin	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	108	[NT]
cis-Permethrin	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
trans-Permethrin	mg/kg	0.2	Org-022/025	<0.2	16	<0.2	<0.2	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	110	16	120	103	15	122	[NT]

QUALITY CONTROL: Triazine Herbicides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	[NT]
Date analysed	-			25/09/2020	16	25/09/2020	25/09/2020		25/09/2020	[NT]
Ametryn	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Atrazine	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	103	[NT]
Cyanazine	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Hexazinone	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Prometryn	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	103	[NT]
Simazine	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Terbutryn	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Propazine	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Irgarol	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Metribuzin	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Terbutylazine	mg/kg	0.5	Org-022/025	<0.5	16	<0.5	<0.5	0	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	110	16	120	103	15	122	[NT]

QUALITY CONTROL: Dioxins/Furans in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			17/09/2020	16	17/09/2020	17/09/2020		17/09/2020	[NT]
Date analysed	-			20/09/2020	16	20/09/2020	20/09/2020		20/09/2020	[NT]
2,3,7,8-TCDD *	pg/g	1	USEPA Method 1613	<1	16	<1	<1	0	98	[NT]
$^{13}C_{12}$ Rec	%		Org-025	111	16	100	84	17	103	[NT]
1,2,3,7,8-PeCDD *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	88	[NT]
$^{13}C_{12}$ Rec	%		Org-025	120	16	99	81	20	109	[NT]
1,2,3,4,7,8-HxCDD *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	97	[NT]
$^{13}C_{12}$ Rec	%		Org-025	95	16	85	75	12	111	[NT]
1,2,3,4,7,8-HxCDD *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	90	[NT]
$^{13}C_{12}$ Rec	%		Org-025	113	16	75	67	11	98	[NT]
1,2,3,4,7,8-HxCDD *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	87	[NT]
1,2,3,4,6,7,8-HpCDD *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	98	[NT]
$^{13}C_{12}$ Rec	%		Org-025	129	16	103	82	23	113	[NT]
OCDD*	pg/g	10	USEPA Method 1613	<10	16	10	10	0	88	[NT]
$^{13}C_{12}$ Rec	%		Org-025	62	16	112	96	15	115	[NT]
2,3,7,8-TCDF *	pg/g	1	USEPA Method 1613	<1	16	<1	<1	0	101	[NT]
$^{13}C_{12}$ Rec	%		USEPA Method 1613	110	16	103	86	18	107	[NT]
1,2,3,7,8-PeCDF *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	88	[NT]
$^{13}C_{12}$ Rec	%		USEPA Method 1613	106	16	102	80	24	108	[NT]
1,2,3,7,8-PeCDF *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	91	[NT]
$^{13}C_{12}$ Rec	%		USEPA Method 1613	104	16	102	79	25	117	[NT]
1,2,3,4,7,8-HxCDF *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	93	[NT]
$^{13}C_{12}$ Rec	%		USEPA Method 1613	100	16	98	83	17	108	[NT]
1,2,3,4,7,8-HxCDF *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	96	[NT]

QUALITY CONTROL: Dioxins/Furans in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
$^{13}C_{12}$ Rec	%		USEPA Method 1613	110	16	94	77	20	101	[NT]
1,2,3,4,7,8-HxCDF *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	91	[NT]
$^{13}C_{12}$ Rec	%		USEPA Method 1613	97	16	95	81	16	107	[NT]
1,2,3,4,7,8-HxCDF *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	90	[NT]
$^{13}C_{12}$ Rec	%		USEPA Method 1613	102	16	104	86	19	105	[NT]
1,2,3,4,6,7,8-HpCDF *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	91	[NT]
$^{13}C_{12}$ Rec	%		USEPA Method 1613	101	16	107	82	26	106	[NT]
1,2,3,4,6,7,8-HpCDF *	pg/g	5	USEPA Method 1613	<5	16	<5	<5	0	87	[NT]
$^{13}C_{12}$ Rec	%		USEPA Method 1613	90	16	112	88	24	116	[NT]
OCDF*	pg/g	10	USEPA Method 1613	<10	16	<10	<10	0	87	[NT]

QUALITY CONTROL: Organotin Compounds in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			18/09/2020	16	18/09/2020	18/09/2020		18/09/2020	[NT]
Date analysed	-			19/09/2020	16	19/09/2020	19/09/2020		19/09/2020	[NT]
Monobutyltin as Sn	µg Sn/kg	0.5	Org-025/026	<0.5	16	4	7.2	57	[NT]	[NT]
Dibutyltin as Sn	µg Sn/kg	0.5	Org-025/026	<0.5	16	<0.5	<0.5	0	88	[NT]
Tributyltin as Sn	µg Sn/kg	0.5	Org-025/026	<0.5	16	<0.5	<0.5	0	86	[NT]
Surrogate Triphenyltin	%		Org-025/026	97	16	95	94	1	96	[NT]

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-6
Date prepared	-			21/09/2020	2	21/09/2020	21/09/2020		21/09/2020	21/09/2020
Date analysed	-			21/09/2020	2	21/09/2020	21/09/2020		21/09/2020	21/09/2020
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	101	102
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	92	96
Perfluorohexanesulfonic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	111	107
Perfluoroheptanesulfonic acid	µg/kg	0.2	Org-029	<0.2	2	<0.1	<0.1	0	127	120
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	112	111
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	96	119
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	99	99
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	109	107
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	102	102
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	115	113
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	102	104
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	111	109
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	120	119
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	108	103
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	106	103
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	2	<0.5	<0.5	0	104	124
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	2	<5	<5	0	107	106
4:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	100	97
6:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.1	<0.1	0	94	101
8:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.2	<0.2	0	107	116
10:2 FTS	µg/kg	0.1	Org-029	<0.1	2	<0.2	<0.2	0	127	140
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	108	108
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	2	<1	<1	0	104	109
N-Ethyl perfluorooctanesulfon -amide	µg/kg	1	Org-029	<1	2	<1	<1	0	116	112
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	1	Org-029	<1	2	<1	<1	0	99	94
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	5	Org-029	<5	2	<5	<5	0	96	96
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	104	104
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	2	<0.2	<0.2	0	115	112
Surrogate $^{13}C_8$ PFOS	%		Org-029	98	2	94	96	2	99	100
Surrogate $^{13}C_2$ PFOA	%		Org-029	87	2	86	82	5	85	86
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	94	2	76	74	3	90	75

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-6
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	86	2	69	73	6	84	75
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	98	2	78	84	7	97	81
Extracted ISTD 13C4 PFBA	%		Org-029	83	2	60	63	5	82	65
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	83	2	62	65	5	81	65
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	117	2	89	95	7	115	90
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	116	2	83	82	1	113	78
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	143	2	97	99	2	143	93
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	134	2	83	84	1	127	80
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	117	2	78	79	1	115	76
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	121	2	82	84	2	116	83
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	151	2	90	96	6	135	99
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	102	2	68	76	11	98	74
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	127	2	91	84	8	126	81
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	125	2	74	74	0	127	59
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	173	2	105	111	6	174	92
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	113	2	81	86	6	109	84
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	96	2	77	83	8	96	84
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	93	2	77	80	4	90	82
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	143	2	116	119	3	143	123
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	145	2	119	124	4	141	126
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	133	2	88	91	3	128	88

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	250072-6
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	120	2	72	78	8	111	78

QUALITY CONTROL: Moisture						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			16/09/2020	16	18/09/2020	18/09/2020		[NT]	[NT]
Date analysed	-			17/09/2020	16	21/09/2020	21/09/2020		[NT]	[NT]
Moisture	%	0.1	INORG-008	<0.1	16	21	21	0	[NT]	[NT]

QUALITY CONTROL: External Testing						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
MicroAnalysis ID			Ext-059	#	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
$CaCO_3$ Content by XRF			EXT-091	#	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/MBTEXN in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date analysed	-			17/09/2020	[NT]	[NT]	[NT]	[NT]	17/09/2020	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	95	[NT]
MTBE	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	96	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate toluene-d8	%		Org-023	93	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate 4-BFB	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	98	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

Report Comments

Organotins: The RPD for duplicate results is accepted due to the non homogenous nature of the sample/s.

PFAS - Analysis conducted by Envirolab Sydney 251254

PSD analysis conducted by Microanalysis Job 20_1445.

Calcium carbonate analysis conducted by Greencap Report 39142

COC

mpl Laboratories
Job No.- 250072
Date Rec - 14/9/2020
Time Rec - 15:45
Rec By - GM
TAT Req - SAME 1 / 2 / 3 / STD
Temp - cool / ambient
Cooling - Ice / Ice pack / None
Security Seal - Yes / No

ENVIROLAB GROUP

ep

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling

Job Number : 20085.02

Project Manager: Joe Pedicini

Phone: 0408847239

Email: joe.pedicini@environmentalprojects.com.au

Results to: Lab.Results@environmentalprojects.com.au

Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab

Laboratory Quote Ref: DEW Port Stanvac

Secondary Laboratory:

Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 5

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD						Additional Comments / Notes
1	SS04	0-0.1	9/09/2020	Glass jar		1									
2	SS04	0.1-0.2	↓	Plastic jar			1								
3	SS04	0.2-0.6		plastic bag				1							100 mm core length (1/4 core)
4	SS04	comp		plastic bag					1						Composite
5	SS05	0-0.2		Glass jar		1									
6	SS05	0.2-0.4		Plastic jar			1								
7	SS05	0.4-1.0		plastic bag				1							150 mm core length (1/4 core)
8	SS05	comp		plastic bag					1						Composite
9	SS10	0-0.1		Plastic jar			1								
10	SS10	0.1-0.2		Glass jar		1									
11	SS10	0.6-0.8		plastic bag				1							200 mm core length
12	SS10	0-0.4		plastic bag					1						Composite
13	SS31	0.1-0.2		Glass jar		1									
14	SS31	0.2-0.3		Plastic jar			1								
15	SS31	comp		plastic bag					1						Composite
16	SS32-1	01-0.2		Glass jar	1	1									
17	SS32-1	0.2-0.3		Plastic jar			1								
18	SS32	0.4-1.0		plastic bag				1							150 mm core length (1/4 core)
19	SS32	0.3-0.9		plastic bag					1						Composite
20	SS32-2	1.0-1.1		Glass jar											
21	SS32-2	1.1-1.2		Plastic jar											
22	DUP 3			Glass jar		1									
23	DUP 3			Plastic jar			1								

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: GM (MPL)
Date\time requested: 090920 2pm	Date\time received: 14/9/2020. 15:45
Signature:	Signature:

Additional Comments

Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides

Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling

Job Number : 20085.02

Project Manager: Joe Pedicini

Phone: 0408847239

Email: joe.pedicini@environmentalprojects.com.au

Results to: Lee.Rosina@environmentalprojects.com.au

Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab

Laboratory Quote Ref: DEW Port Stanvac

Secondary Laboratory:

Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 5

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Group 1	Group 2	PFAS	Bulk Density	PSD	Metals	TRH				Additional Comments / Notes
24	TB		9/09/2020	Water							1				

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: Cm (MPL)
Date\time requested: 100920 2pm	Date\time received: 14/9/2020, 8:45
Signature:	Signature:

Additional Comments

Group 1 Organochlorine Pesticides, Chlorinated Organics, Non-Organochlorine Pesticides, Dioxins, Organotin compounds, Cyanides

Group 2 Metals, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, Phenolics, Volatile Chlorinated Hydrocarbons, Chlorobenzenes, BTEX, Nutrients, pH

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

DATA QUALITY ASSESSMENT SUMMARY

Report Details

Envirolab Report Reference	**250072**
Client ID	Department for Environment and Water (SA)
Project Reference	Port Stanvac Sediment Sampling- 20085.02
Date Issued	23/10/2020

QC DATA

All laboratory QC data was within the Envirolab Group's specifications.

HOLDING TIME COMPLIANCE EVALUATION

All preservation / holding times (based on AS/ASPHA/ISO/NEPM/USEPA reference documents and standards) are compliant except:

Holding Time Exceedances

Analysis	Sample No	Date Sampled	Date Extracted	Date Analysed	Accepted
Miscellaneous Inorg - soil					
pH	250072-1	09/09/2020	18/09/2020	18/09/2020	X
pH	250072-5	09/09/2020	18/09/2020	18/09/2020	X
pH	250072-10	09/09/2020	18/09/2020	18/09/2020	X
pH	250072-13	09/09/2020	18/09/2020	18/09/2020	X
pH	250072-16	09/09/2020	18/09/2020	18/09/2020	X
pH	250072-22	09/09/2020	18/09/2020	18/09/2020	X
External Testing					
	250072-4	09/09/2020			##
	250072-8	09/09/2020			##
	250072-12	09/09/2020			##
	250072-15	09/09/2020			##
	250072-19	09/09/2020			##

Holding Table Comments

No Extract or Analysed Dates were provided. Holding Times cannot be calculated.

Certain analyses have had their recommended technical holding times elongated by filtering and/or freezing on receipt at the laboratory (e.g. BOD, chlorophyll/Pheophytin, nutrients and acid sulphate soil tests).

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lab@mpl.com.au
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COMPLIANCE TO QC FREQUENCY (NEPM)

Internal laboratory QC rate complies with NEPM requirements (LCS/MB/MS 1 in 20, Duplicates 1 in 10 samples). Note, samples are batched together with other sample consignments in order to assign QC sample frequency.

QC Evaluation	
Duplicate(s) was performed as per NEPM frequency	✓
Laboratory Control Sample(s) were analysed with the samples received	✓
A Method Blank was performed with the samples received	✓
Matrix spike(s) was performed as per NEPM frequency (Not Applicable for Air samples)	✓

Refer to Certificate of Analysis for all Quality Control data.

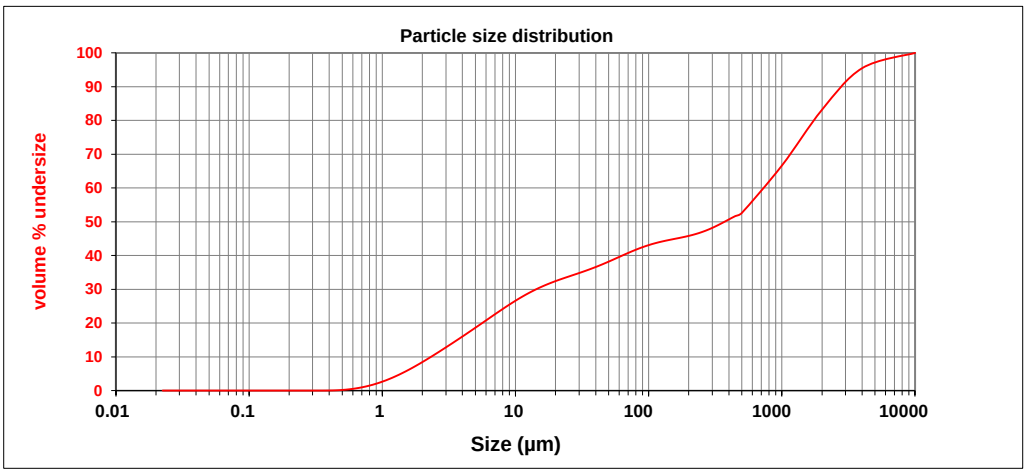
microanalysis australia

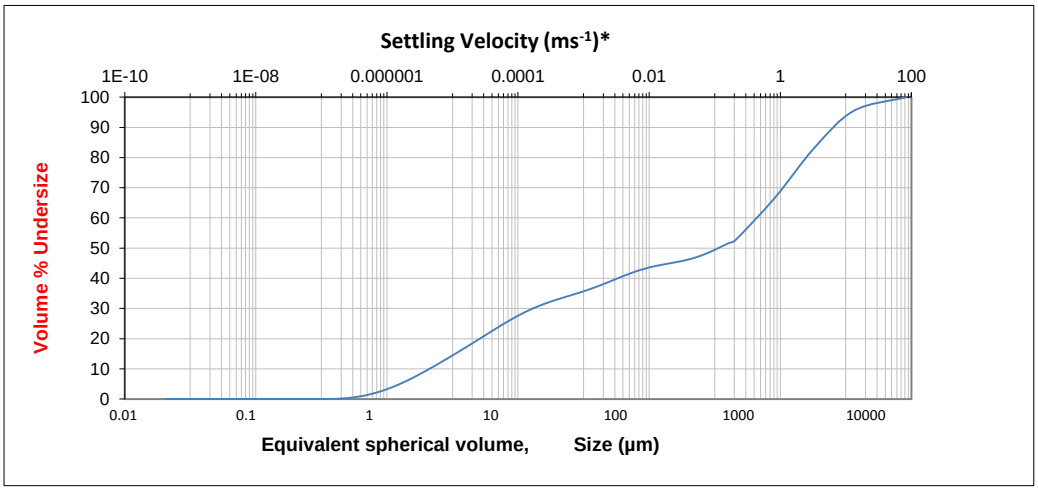
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	15/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	29/09/2020
Client ID:	250072-4	**Date reported:**	30/09/2020
Batch No :	20_1445		
Lab ID No :	20_1445_01		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	18 min sonication		

Span:	8.37	**Vol. Weighted mean D[4,3]:**	749.26 µm	**d(0.1)**	2.33 µm
		Surface weighted mean D[3,2]	7.37 µm	**d(0.5)**	371.52 µm
Volume % under 75um:	41.23%			**d(0.9)**	3110.64 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	2.65	7.096	22.74	50.238	38.21	355.66	49.62
0.022	0.00	0.159	0.00	1.125	3.40	7.962	24.08	56.368	39.09	399.05	50.67
0.025	0.00	0.178	0.00	1.262	4.25	8.934	25.39	63.246	39.98	447.74	51.69
0.028	0.00	0.200	0.00	1.416	5.19	10.024	26.64	70.963	40.85	500.00	52.60
0.032	0.00	0.224	0.00	1.589	6.21	11.247	27.82	79.621	41.67	1000.00	66.65
0.036	0.00	0.252	0.00	1.783	7.30	12.619	28.91	89.337	42.43	2000.00	83.17
0.040	0.00	0.283	0.00	2.000	8.44	14.159	29.92	100.237	43.09	4000.00	95.47
0.045	0.00	0.317	0.00	2.244	9.63	15.887	30.83	112.468	43.67	10000.00	100.00
0.050	0.00	0.356	0.00	2.518	10.86	17.825	31.66	126.191	44.16		
0.056	0.00	0.399	0.02	2.825	12.11	20.000	32.42	141.589	44.58		
0.063	0.00	0.448	0.07	3.170	13.39	22.440	33.13	158.866	44.98		
0.071	0.00	0.502	0.18	3.557	14.69	25.179	33.79	178.250	45.37		
0.080	0.00	0.564	0.37	3.991	16.00	28.251	34.45	200.000	45.82		
0.089	0.00	0.632	0.64	4.477	17.32	31.698	35.13	224.404	46.34		
0.100	0.00	0.710	0.99	5.024	18.67	35.566	35.83	251.785	46.97		
0.112	0.00	0.796	1.44	5.637	20.02	39.905	36.58	282.508	47.73		
0.126	0.00	0.893	2.00	6.325	21.38	44.774	37.37	316.979	48.62		

Note: Data from 500µm to 4000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

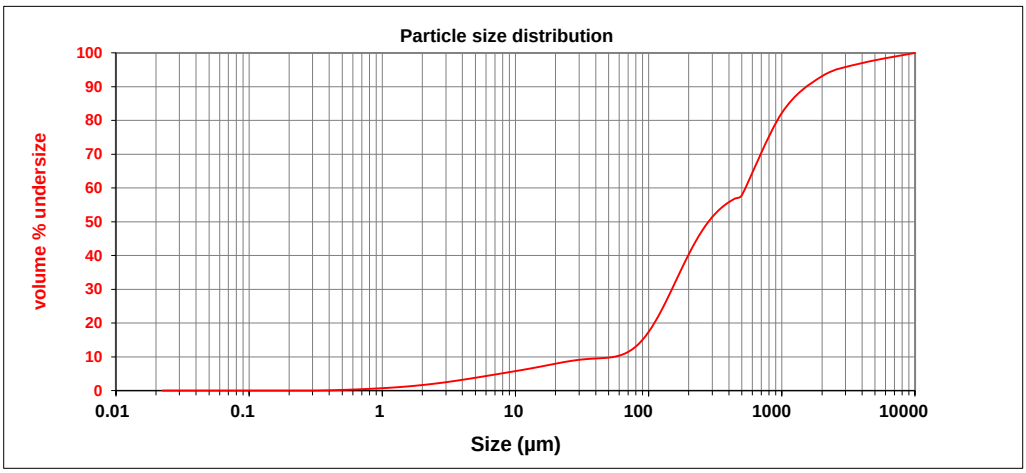
microanalysis australia

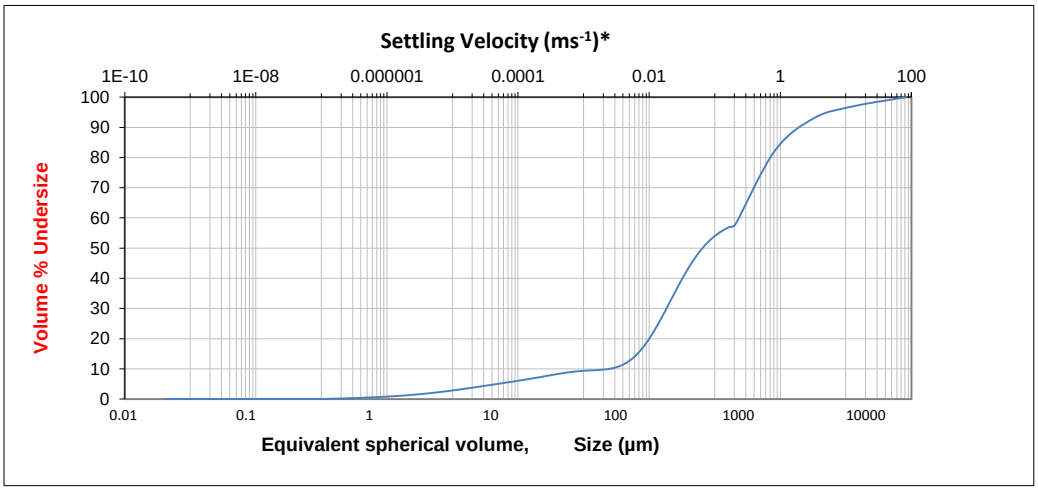
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	15/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	29/09/2020
Client ID:	250072-8	**Date reported:**	30/09/2020
Batch No :	20_1445		
Lab ID No :	20_1445_02		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	8 min sonication		

Span:	5.90	**Vol. Weighted mean D[4,3]:**	544.29 µm	**d(0.1)**	54.72 µm
		Surface weighted mean D[3,2]	28.53 µm	**d(0.5)**	281.12 µm
Volume % under 75um:	12.23%			**d(0.9)**	1714.02 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.71	7.096	4.78	50.238	9.77	355.66	54.30
0.022	0.00	0.159	0.00	1.125	0.82	7.962	5.11	56.368	10.08	399.05	55.78
0.025	0.00	0.178	0.00	1.262	0.96	8.934	5.44	63.246	10.64	447.74	56.93
0.028	0.00	0.200	0.00	1.416	1.10	10.024	5.77	70.963	11.57	500.00	57.83
0.032	0.00	0.224	0.00	1.589	1.26	11.247	6.11	79.621	12.97	1000.00	82.25
0.036	0.00	0.252	0.00	1.783	1.44	12.619	6.46	89.337	14.93	2000.00	93.10
0.040	0.00	0.283	0.00	2.000	1.64	14.159	6.82	100.237	17.46	4000.00	96.99
0.045	0.00	0.317	0.01	2.244	1.85	15.887	7.20	112.468	20.56	10000.00	100.00
0.050	0.00	0.356	0.04	2.518	2.09	17.825	7.58	126.191	24.15		
0.056	0.00	0.399	0.08	2.825	2.34	20.000	7.97	141.589	28.10		
0.063	0.00	0.448	0.14	3.170	2.60	22.440	8.34	158.866	32.24		
0.071	0.00	0.502	0.19	3.557	2.89	25.179	8.68	178.250	36.40		
0.080	0.00	0.564	0.26	3.991	3.18	28.251	8.97	200.000	40.39		
0.089	0.00	0.632	0.33	4.477	3.49	31.698	9.21	224.404	44.07		
0.100	0.00	0.710	0.41	5.024	3.81	35.566	9.38	251.785	47.34		
0.112	0.00	0.796	0.50	5.637	4.13	39.905	9.50	282.508	50.13		
0.126	0.00	0.893	0.60	6.325	4.45	44.774	9.61	316.979	52.44		

Note: Data from 500µm to 4000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

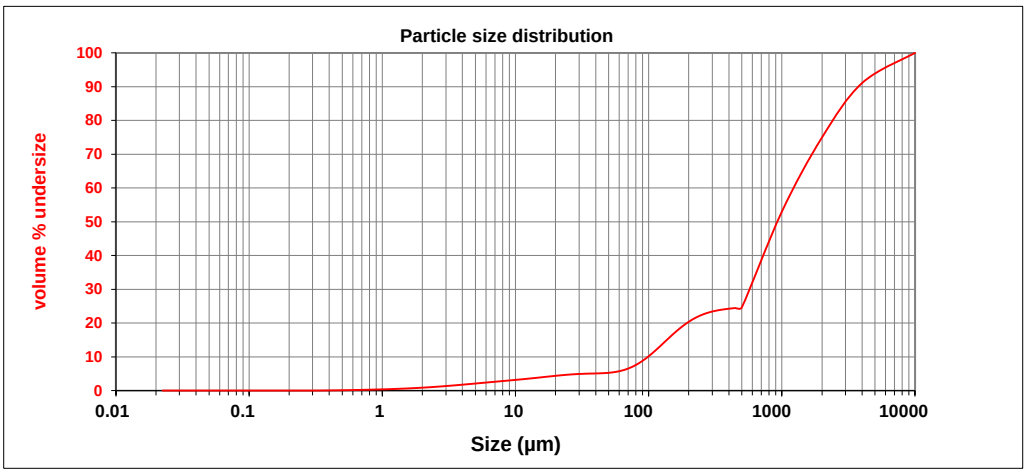
microanalysis australia

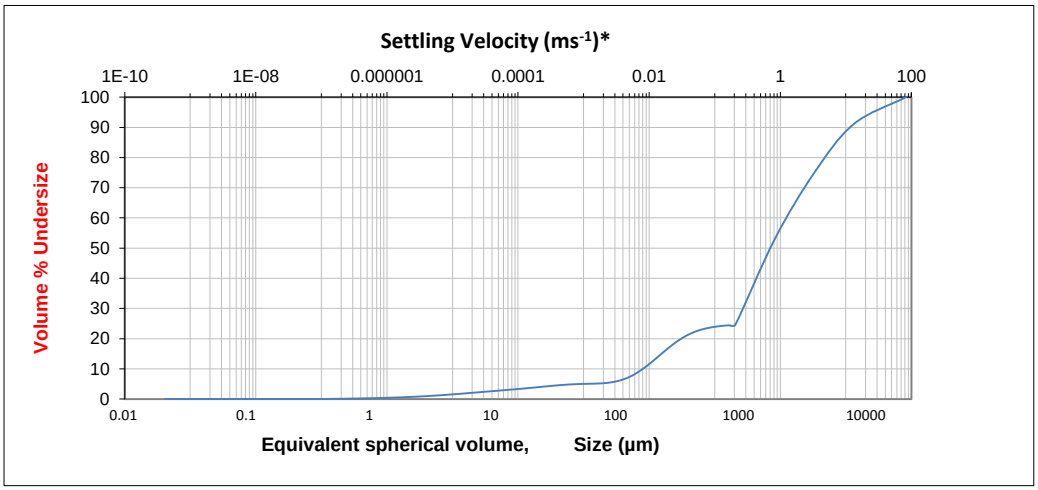
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	15/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	29/09/2020
Client ID:	250072-12	**Date reported:**	30/09/2020
Batch No :	20_1445		
Lab ID No :	20_1445_03		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	9 min sonication		

Span:	3.98	**Vol. Weighted mean D[4,3]:**	1095.75 µm	**d(0.1)**	98.69 µm
		Surface weighted mean D[3,2]	49.76 µm	**d(0.5)**	946.91 µm
Volume % under 75um:	7.04%			**d(0.9)**	3865.33 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.36	7.096	2.63	50.238	5.27	355.66	23.97
0.022	0.00	0.159	0.00	1.125	0.42	7.962	2.81	56.368	5.52	399.05	24.24
0.025	0.00	0.178	0.00	1.262	0.49	8.934	2.98	63.246	5.95	447.74	24.45
0.028	0.00	0.200	0.00	1.416	0.57	10.024	3.17	70.963	6.60	500.00	24.63
0.032	0.00	0.224	0.00	1.589	0.65	11.247	3.35	79.621	7.53	1000.00	53.01
0.036	0.00	0.252	0.00	1.783	0.75	12.619	3.54	89.337	8.74	2000.00	74.96
0.040	0.00	0.283	0.00	2.000	0.86	14.159	3.75	100.237	10.21	4000.00	91.09
0.045	0.00	0.317	0.00	2.244	0.98	15.887	3.95	112.468	11.89	10000.00	100.00
0.050	0.00	0.356	0.02	2.518	1.11	17.825	4.16	126.191	13.70		
0.056	0.00	0.399	0.04	2.825	1.26	20.000	4.37	141.589	15.55		
0.063	0.00	0.448	0.07	3.170	1.41	22.440	4.56	158.866	17.33		
0.071	0.00	0.502	0.10	3.557	1.57	25.179	4.73	178.250	18.96		
0.080	0.00	0.564	0.13	3.991	1.74	28.251	4.86	200.000	20.38		
0.089	0.00	0.632	0.17	4.477	1.92	31.698	4.95	224.404	21.54		
0.100	0.00	0.710	0.21	5.024	2.09	35.566	5.02	251.785	22.45		
0.112	0.00	0.796	0.25	5.637	2.27	39.905	5.07	282.508	23.13		
0.126	0.00	0.893	0.30	6.325	2.45	44.774	5.14	316.979	23.62		

Note: Data from 500µm to 4000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

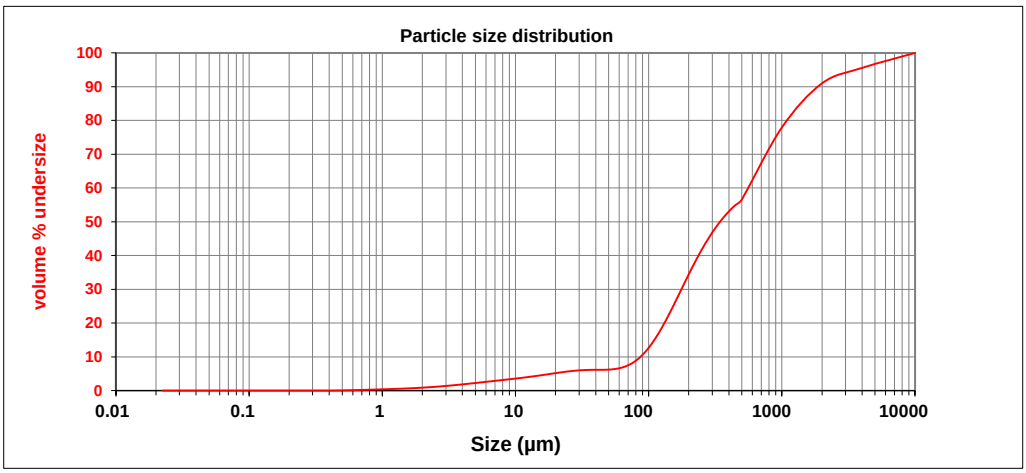
microanalysis australia

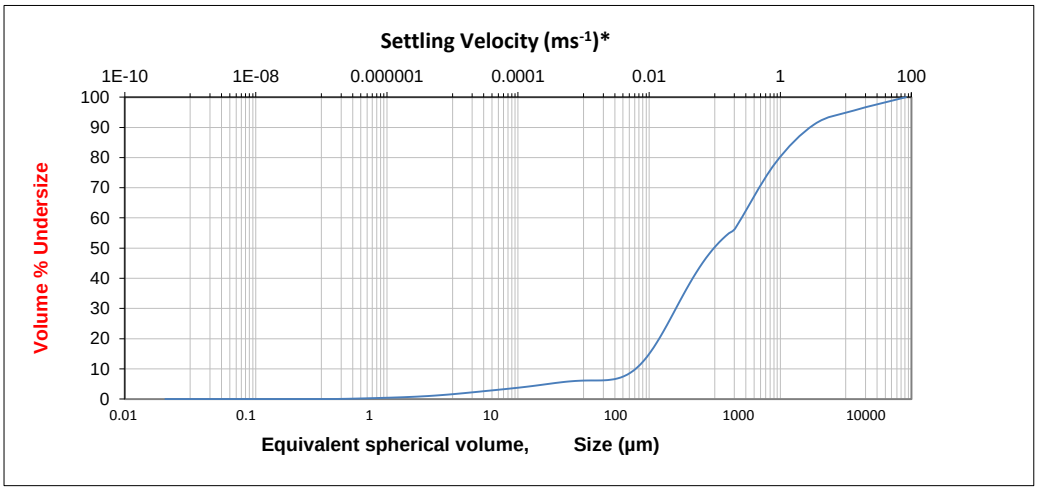
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	15/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	29/09/2020
Client ID:	250072-15	**Date reported:**	30/09/2020
Batch No :	20_1445		
Lab ID No :	20_1445_04		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	6 min sonication		

Span:	5.34	**Vol. Weighted mean D[4,3]:**	597.05 µm	**d(0.1)**	86.62 µm
		Surface weighted mean D[3,2]	47.20 µm	**d(0.5)**	344.30 µm
Volume % under 75um:	8.14%			**d(0.9)**	1924.38 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.37	7.096	2.90	50.238	6.21	355.66	50.76
0.022	0.00	0.159	0.00	1.125	0.43	7.962	3.11	56.368	6.41	399.05	53.02
0.025	0.00	0.178	0.00	1.262	0.50	8.934	3.33	63.246	6.83	447.74	54.95
0.028	0.00	0.200	0.00	1.416	0.58	10.024	3.56	70.963	7.59	500.00	56.58
0.032	0.00	0.224	0.00	1.589	0.66	11.247	3.79	79.621	8.78	1000.00	77.94
0.036	0.00	0.252	0.00	1.783	0.75	12.619	4.04	89.337	10.47	2000.00	90.99
0.040	0.00	0.283	0.00	2.000	0.86	14.159	4.30	100.237	12.72	4000.00	95.56
0.045	0.00	0.317	0.00	2.244	0.98	15.887	4.58	112.468	15.51	10000.00	100.00
0.050	0.00	0.356	0.00	2.518	1.12	17.825	4.87	126.191	18.79		
0.056	0.00	0.399	0.00	2.825	1.28	20.000	5.17	141.589	22.45		
0.063	0.00	0.448	0.01	3.170	1.45	22.440	5.45	158.866	26.39		
0.071	0.00	0.502	0.05	3.557	1.64	25.179	5.69	178.250	30.44		
0.080	0.00	0.564	0.09	3.991	1.83	28.251	5.90	200.000	34.45		
0.089	0.00	0.632	0.14	4.477	2.04	31.698	6.04	224.404	38.32		
0.100	0.00	0.710	0.19	5.024	2.25	35.566	6.12	251.785	41.93		
0.112	0.00	0.796	0.25	5.637	2.47	39.905	6.15	282.508	45.22		
0.126	0.00	0.893	0.31	6.325	2.68	44.774	6.15	316.979	48.17		

Note: Data from 500µm to 4000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

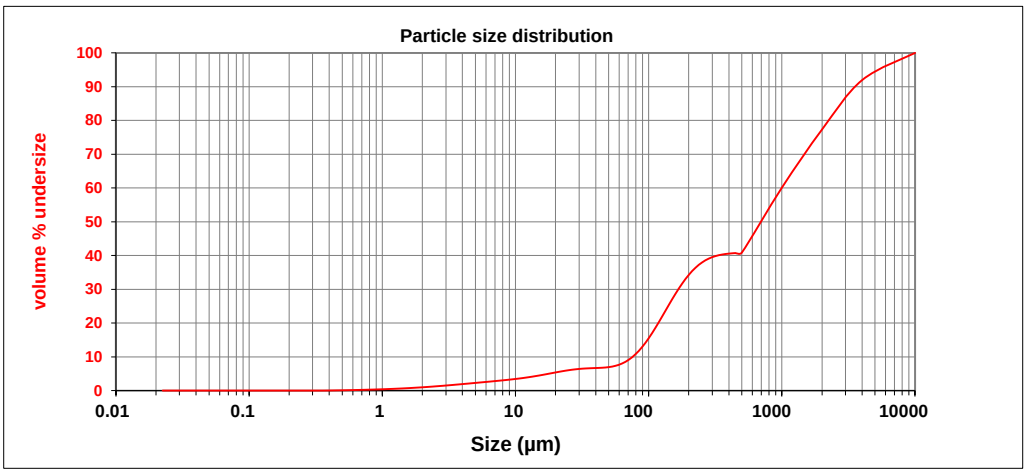
microanalysis australia

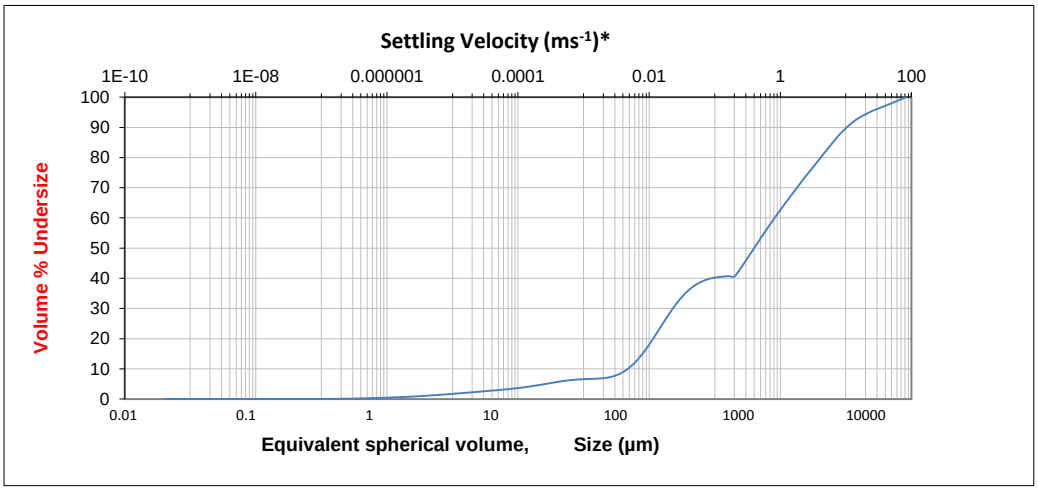
37 Kensington Street
East Perth
WA 6004

Client:	MPL Laboratories	**Date received:**	15/9/2020
Client address:	16-18 Hayden Court MYAREE WA 6154	**Date analysed**	29/09/2020
Client ID:	250072-19	**Date reported:**	30/09/2020
Batch No :	20_1445		
Lab ID No :	20_1445_05		
Revision No. :	0		

Analysis :	Laser diffraction size distribution following ISO13320-1:2020	**Result units:**	Volume
Dispersant:	Water	**Analysis model:**	General purpose
Additives:	10 millilitres sodium hexametaphosphate		
Sonication:	7 min sonication		

Span:	4.96	**Vol. Weighted mean D[4,3]:**	919.41 µm	**d(0.1)**	75.48 µm
		Surface weighted mean D[3,2]	43.53 µm	**d(0.5)**	737.64 µm
Volume % under 75um:	9.91%			**d(0.9)**	3734.07 µm





* indicates that the settling velocity values are fixed for the current conditions stated in the 'settling velocity' tab.

Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %	Size (µm)	Vol Under %
0.020	0.00	0.142	0.00	1.002	0.39	7.096	2.82	50.238	6.95	355.66	40.28
0.022	0.00	0.159	0.00	1.125	0.46	7.962	3.02	56.368	7.34	399.05	40.55
0.025	0.00	0.178	0.00	1.262	0.54	8.934	3.22	63.246	8.04	447.74	40.72
0.028	0.00	0.200	0.00	1.416	0.63	10.024	3.44	70.963	9.16	500.00	40.85
0.032	0.00	0.224	0.00	1.589	0.73	11.247	3.69	79.621	10.77	1000.00	60.10
0.036	0.00	0.252	0.00	1.783	0.85	12.619	3.97	89.337	12.92	2000.00	77.31
0.040	0.00	0.283	0.00	2.000	0.97	14.159	4.28	100.237	15.57	4000.00	91.95
0.045	0.00	0.317	0.00	2.244	1.11	15.887	4.63	112.468	18.62	10000.00	100.00
0.050	0.00	0.356	0.00	2.518	1.25	17.825	5.00	126.191	21.95		
0.056	0.00	0.399	0.02	2.825	1.41	20.000	5.37	141.589	25.36		
0.063	0.00	0.448	0.05	3.170	1.57	22.440	5.72	158.866	28.65		
0.071	0.00	0.502	0.08	3.557	1.74	25.179	6.04	178.250	31.67		
0.080	0.00	0.564	0.12	3.991	1.92	28.251	6.30	200.000	34.26		
0.089	0.00	0.632	0.16	4.477	2.10	31.698	6.48	224.404	36.36		
0.100	0.00	0.710	0.21	5.024	2.28	35.566	6.60	251.785	37.96		
0.112	0.00	0.796	0.26	5.637	2.46	39.905	6.67	282.508	39.08		
0.126	0.00	0.893	0.32	6.325	2.64	44.774	6.76	316.979	39.83		

Note: Data from 500µm to 4000µm by wet screening, from 0.02µm to 500µm by laser diffraction.

Analysed:	Beau Duval-Jenner
Reported:	Beau Duval-Jenner
Approved:	Ian Davies, B.Sc.(Chemistry)

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Environmental Projects EP
Attention	Joe Pedicini

Sample Login Details

Your reference	Port Stanvac Sediment Sampling- 20085.02
MPL Reference	251890
Date Sample Received	20/10/2020
Date Instructions Received	20/10/2020
Date Results Expected to be Reported	03/11/2020

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	21 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	14
Cooling Method	Ice Pack
Sampling Date Provided	Yes

Comments

Nil

Please direct any queries to:

Heram Halim	Meredith Conroy
Phone: 08 9317 2505	**Phone: 08 9317 2505**
Fax: 08 9317 4163	**Fax: 08 9317 4163**
Email: hhalim@mpl.com.au	**Email: mconroy@mpl.com.au**

Analysis Underway, details on the following page:

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

Sample ID	Density*@ 150C in Vac	External Testing
SS34-0-0.3	✓	
SS34-0-0.3		✓
SS35-1-0-0.5	✓	
SS35-1-0-0.5		✓
SS35-2-0.5-0.7		✓
SS36-1-0-0.5	✓	
SS36-1-0-0.5		✓
3336-2-0.5-0.75		✓
SS37-0-0.5		✓
SS37-0.5-0.8	✓	
SS38-0-0.4	✓	
SS38-0-0.4		✓
SS39-0-0.4	✓	
SS39-0-0.4		✓
SS40-0-0.5	✓	
SS40-0-0.5		✓
SS41-0-0.4	✓	
SS41-0-0.4		✓
SS42-0-0.5	✓	
SS42-0-0.5		✓
DUP 1		✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Greencap
12 Greenhill Road
Wayville SA 5034
P: (08) 8299 9955
E: adelaide@greencap.com.au

CALCIUM CARBONATE ANALYSIS - REPORT No. 39974

1. INTRODUCTION

Samples were received from Alex Stenta of MPL Laboratories with a request for determination of their calcium carbonate content. They were from Job Reference 251890-A. Acid-soluble Ca and acid-soluble Mg assays were provided

2. PROCEDURE

A representative portion of each sample was pulverized then analysed by X-ray diffraction to determine the minerals present. The $CaCO_3$ content was calculated by multiplying the wt% Ca by 2.497. The $MgCO_3$ content was calculated by multiplying the wt% Mg by 3.47.

3. RESULTS

Shellgrit (composed of calcite, Mg-substituted calcite and aragonite) contained the only minerals with acid-soluble Ca and acid-soluble Mg

Client ID	$CaCO_3$ (calculated wt%)	$MgCO_3$ (calculated wt%)	Total shellgrit (calculated wt%)
251890-A-1	13.2	0.8	14.1
251890-A-3	18.2	1.2	19.4
251890-A-6	15.2	1.1	16.4
251890-A-10	14.0	1.2	15.2
251890-A-11	18.7	1.3	20.0
251890-A-13	17.0	1.2	18.2
251890-A-15	21.2	1.3	22.5
251890-A-17	20.5	1.4	21.9
251890-A-19	14.5	1.2	15.7

The other minerals are

Mineral name	Composition	Relative abundance
Quartz	SiO_2	D
Albite	$NaAlSi_3O_8$	Tr-A
K-feldspar	$KAlSi_3O_8$	Tr-A
Muscovite	$KAl_2Si_3AlO_{10}(OH)_2$	Tr

Semiquantitative Abbreviations

D = Dominant. Used for the component apparently most abundant, regardless of its probable percentage level.
A = Accessory. Components judged to be present between the levels of roughly 5 and 20%.
Tr = Trace. Components judged to be below about 5%.

TESTING OFFICER: Michael Till

Please note that the results contained in this report relate only to the sample(s) submitted for testing.

Any and all services carried out by Greencap for the Client are subject to the Terms and Conditions listed on the Greencap website https://www.greencap.com.au/terms-conditions and are governed by our statements of limitation available at https://www.greencap.com.au/statements-limitation

CHAIN OF CUSTODY DOCUMENTATION - Environmental Projects

Project Title : Port Stanvac Sediment Sampling

Job Number : 20085.02

Project Manager: Joe Pedicini

Phone: 0408847239

Email: joe.pedicini@environmentalprojects.com.au

Results to: Lab.Results@environmentalprojects.com.au

Invoice to: accounts@environmentalprojects.com.au

Primary Laboratory: Envirolab

Laboratory Quote Ref: DEW Port Stanvac

Secondary Laboratory:

Laboratory Quote Ref:

COC REFERENCE
20085.02 COC 6

Turnaround Required
Standard

SAMPLE DETAILS					CHEMICAL TESTING REQUIRED										
Contract Laboratory Sample ID	Sample ID	Sample Depth	Date Sampled	Sample Matrix / Type	Bulk Density	PSD									Additional Comments / Notes
1	SS34	0-0.3	19/10/2020	Plastic Bag	1										75 mm core length (1/4 core)
2	SS34	0-0.3	↓	Plastic Bag		1									Composite
3	SS35-1	0-0.5		Plastic Bag	1										125 mm core length (1/4 core)
4	SS35-1	0-0.5		Plastic Bag		1									Composite
5	SS35-2	0.5-0.7		Plastic Bag		1									Composite
6	SS36-1	0-0.5		Plastic Bag	1										125 mm core length (1/4 core)
7	SS36-1	0-0.5		Plastic Bag		1									Composite
8	SS36-2	0.5-0.75		Plastic Bag		1									Composite
9	SS37	0-0.5		Plastic Bag		1									Composite
10	SS37	0.5-0.8		Plastic Bag	1										150 mm core length (1/2 core)
11	SS38	0-0.4		Plastic Bag	1										100 mm core length (1/4 core)
12	SS38	0-0.4		Plastic Bag		1									Composite
13	SS39	0-0.4		Plastic Bag	1										100 mm core length (1/4 core)
14	SS39	0-0.4		Plastic Bag		1									Composite
15	SS40	0-0.5		Plastic Bag	1										125 mm core length (1/4 core)
16	SS40	0-0.5		Plastic Bag		1									Composite
17	SS41	0-0.4		Plastic Bag	1										100 mm core length (1/4 core)
18	SS41	0-0.4		Plastic Bag		1									Composite
19	SS42	0-0.5		Plastic Bag	1										125 mm core length (1/4 core)
20	SS42	0-0.5		Plastic Bag		1									Composite
21	DUP 1			Plastic Bag		1									

EP AUTHORISATION	LABORATORY RECEIPT
Requested by: Joe Pedicini	Received by: J. BOWDEN ENVIROLAB
Date\time requested: 191020 1pm	Date\time received: 19-10-2020
Signature: JP	Signature:

Additional Comments

Additional analyses to be advised by DEW

Envirolab Laboratories
Job No.- 251890
Date Rec - 20/10/2020
Time Rec - 10:10
Rec By - Lm
TAT Req - SAME 1 / 2 / 3 / STD
Temp - 0C / ambient
Cooling - Ice / Ice pack / None
Security Seal - Yes / No

Meredith Conroy 251890-A

To: Alex Stenta
Subject: RE: results for additional cores? [DLM=For-Official-Use-Only]

From: Alex Stenta
Sent: Monday, 2 November 2020 5:49 PM
To: Morcom, Robyn (DEW) <Robyn.Morcom@sa.gov.au>
Cc: Joe Pedicini <Joe.Pedicini@environmentalprojects.com.au>
Subject: RE: results for additional cores? [DLM=For-Official-Use-Only]

Hi Robyn,

Further to our earlier conversation, please see sample list below for the 9 most shallow samples:

	Sample ID	Depth
#1	SS34	0 – 0.3
3	SS35-1	0 – 0.5
6	SS36-1	0 – 0.5
10	SS37	~~0 – 0.4~~ 0.5-0.8
11	SS38	0 – 0.4
13	SS39	0 – 0.4
15	SS40	0 – 0.5
17	SS41	0 – 0.4
19	SS42	0 – 0.5

Are you happy for these samples to be tested for CaCO3 content?

From: Morcom, Robyn (DEW) <Robyn.Morcom@sa.gov.au>
Sent: Monday, 2 November 2020 12:34 PM
To: Alex Stenta <astenta@envirolab.com.au>
Cc: Joe Pedicini <Joe.Pedicini@environmentalprojects.com.au>
Subject: results for additional cores? [DLM=For-Official-Use-Only]

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

For Official Use Only

Hi Alex,
Can you predict when the sediment results for the additional cores will be available please?
We're having a meeting next Thursday 12th November and hope to have them returned and added to Joe's sediment report before the meeting.
Do you think that will be possible?
Cheers, Robyn.

Robyn Morcom
Project Officer, Investigations
Securing the future of our coastline

WORKING FROM HOME (Available in MS Teams)

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

CERTIFICATE OF ANALYSIS 251890-A

Client Details

Client	Department for Environment and Water (SA)
Attention	Robyn Morcom
Address	81-95 Waymouth Street, ADELAIDE, SA, 5001

Sample Details

Your Reference	**Port Stanvac Sediment Sampling- 20085.02**
Number of Samples	9 Soil
Date samples received	20/10/2020
Date completed instructions received	04/11/2020

Analysis Details

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

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

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

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

Report Details

Date results requested by	10/11/2020
Date of Issue	10/11/2020

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Results Approved By
Heram Halim, Operations Manager

Authorised By

Michael Kubiak, Laboratory Manager

External Testing						
Our Reference		251890-A-1	251890-A-3	251890-A-6	251890-A-10	251890-A-11
Your Reference	UNITS	SS34	SS35-1	SS36-1	SS37	SS38
Depth		0-0.3	0-0.5	0-0.5	0.5-0.8	0-0.4
Date Sampled		19/10/2020	19/10/2020	19/10/2020	19/10/2020	19/10/2020
Type of sample		Core	Core	Core	Core	Core
CaCO3 Content		See attached	See attached	See attached	See attached	See attached

External Testing					
Our Reference		251890-A-13	251890-A-15	251890-A-17	251890-A-19
Your Reference	UNITS	SS39	SS40	SS41	SS42
Depth		0-0.4	0-0.5	0-0.4	0-0.5
Date Sampled		19/10/2020	19/10/2020	19/10/2020	19/10/2020
Type of sample		Core	Core	Core	Core
CaCO3 Content		See attached	See attached	See attached	See attached

Method ID	Methodology Summary
EXT-091	Analysed by Greencap in-house method LOP-005 X-Ray Diffraction

Result Definitions

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

Quality Control Definitions

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

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

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

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

Report Comments

Calcium Carbonate analysis conducted by Greencap. Report 39974.
Please see attached for analysis report.