South Australian Metropolitan Fire Service

MFS State Wide Appliance and Station Sampling

May 2019

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1. Introduction

1.1 Background

The South Australian Metropolitan Fire Service (SAMFS) operates a total of 37 fire stations across the state. Historically, the SAMFS used firefighting foam containing per- and polyfluoalkyl substances (PFAS) across many of these sites. To understand whether these historical uses of firefighting foam had caused contamination of their firefighting appliances or their fire stations, the SAMFS engaged GHD to assess PFAS concentrations in; firefighting appliances; soil; stormwater collection points (where present); and produce including fruit, vegetables and eggs (where present).

This report documents the methodology and findings of the environmental investigations that were undertaken in January 2019 at 35 fire stations across South Australia. Fire stations located at Largs North and Oakden were not included in this assessment as they had previously been assessed as part of separate investigations.

This report is subject to, and must be read in conjunction with, the limitations set out in Section 9.

1.2 Objectives

The objectives of the investigation at each Fire Station was to assess:

- PFAS concentrations remaining in firefighting appliances
- The concentration of PFAS in accessible soils
- The concentration of PFAS in biota (fruit, vegetables, herbs and poultry), where present

1.3 Site details

A summary of site identification information can be viewed in Appendix A, and maps of each of the sites and associated sampling locations can be viewed in Figures 1 – 35 at the end of this report.

2. Scope of Work

The investigation was undertaken by GHD Environmental Scientists Robert Webb, Mei Lyn Herbertt, Jacinta Kracman, Toby Sorokin and Joel Chance between 21 January and 27 March 2019. Personal qualifications can be seen in table 2.1 below.

Table 2-1 Staff qualifications

Name	Qualification
Jacinta Kracman (Environmental Scientist)	• Bachelor of Engineering (chemical) • Bachelor of Science (honours)
Joel Chance (Environmental Scientist)	• Bachelor of Environmental Science
Mei Lyn Herbertt (Environmental Scientist)	• Bachelor of Advanced Science (majoring in ecology and zoology) • Bachelor of Science (honours)
Robert Webb (Environmental Scientist)	• Bachelor or Engineering (environmental) • Bachelor of Science (geology)
Toby Sorokin (Environmental Engineer)	• Bachelor of Civil Engineering

- Soil samples were taken at fire stations where accessible soil was present. Based on information provided by local SAMFS staff, areas where firefighting foam had been used or had run off onto soil were targeted.
- Biota samples were taken at fire stations where present.
- Water samples were taken from each appliance from the following components, where available/present:
  - monitor
  - water tank
  - on board hose reel - driver side
  - on board hose reel – passenger side
  - water delivery - driver side
  - water delivery - passenger side
- Triple interceptors were sampled at Glen Osmond and Mt Gambier fire stations

The scope of works was implemented to achieve the objectives defined in Section 1.2 of this report and outlined in Table B1, Table B2 and Table B3 of Appendix B

3. Methodology

3.1 Appliance water sampling methodology

The water sampling methodology is summarised in Table 3-1 below.

Table 3-1 Appliance water sampling methodology

Activity	Details
Sampling	• Samples were collected directly into laboratory supplied bottles. An extendable arm was used to hold the sample bottle to access water from the appliance hose, water delivery, water tank (either by grabbing directly from the tank or collecting backflow from the tank inlet) and monitor. • A grab sample was collected from triple interceptors at Glen Osmond and Mt Gambier fire stations • Sample observations on colour, turbidity, sediment load and odour were recorded and are presented in Appendix C.
Sample preservation and transport	• Post collection, samples were immediately stored in an insulated cooler. • Samples were delivered to the primary laboratory (Envirolab Group) by GHD Field Staff under Chain of Custody (COC) documentation QAQC samples were forwarded onto the secondary laboratory (ALS), as presented in Appendix D.
Decontamination	Reusable equipment was decontaminated using a three stage procedure: 1. Cleaned using a mixture of pH neutral phosphate free detergent (Decon® Neutracon) in water. 2. Washed in deionised water. 3. Rinsed in deionised water. Disposable nitrile gloves were changed between samples
QA/QC	• QA/QC samples were collected at a minimum rate of one replicate pair per 20 primary samples. These were submitted to both the primary and secondary laboratory for analysis of the contaminants of concern. • Rinsate samples were collected approximately once per sampling day to assess the potential for cross contamination during sampling.

3.2 Soil sampling methodology

The soil sampling methodology is summarised in Table 3-2 below.

Table 3-2 Soil sampling methodology

Activity	Details
Sampling	• Soil was accessed using a shovel or hand auger to dig to a maximum depth of 0.2 metres below ground level (mBGL). • Soil samples were collected directly into a laboratory supplied jars using the jar to grab the sample directly from the hole. • Soil samples were primarily collected at depths of 0, 0.1 and 0.2 mBGL. • Sampling depths and collection were adjusted on lithology, and visual, historical and olfactory evidence of contamination.
Soil logging	Soils encountered at each sample location were described and recorded on Soil Description Field Sheets, which are presented in Appendix C.
Sample preservation and transport	• Samples were collected in laboratory supplied jars and were immediately stored in an insulated cooler. • Samples were delivered to the laboratory (Envirolab) by GHD field staff under Chain of Custody (COC) documentation, as presented in Appendix D.
Decontamination	The shovel or hand auger used to collect samples was decontaminated via a three stage process: 1. Cleaned using a mixture of pH neutral phosphate free detergent (Decon® Neutracon) in water. 2. Washed in deionised water. 3. Rinsed in deionised water.
QA/QC	QA/QC samples were collected at a minimum rate of one replicate pair per 20 primary samples. These were submitted to both the primary and secondary laboratory for analysis of the contaminants of concern.

3.3 Biota sampling methodology

The biota sampling methodology is summarised in Table 3-3 below.

Table 3-3 Biota sampling methodology

Activity	Details
Sampling (Fruit)	Fruit samples were collected by hand using a new pair of nitrile gloves for the collection of each sample and placed in a zip lock plastic bag.
Sampling (Vegetables)	Vegetable samples were collected by hand using a new pair of nitrile gloves for the collection of each sample and placed in a zip lock plastic bag.
Sampling (Eggs)	Eggs were collected by hand from the chicken shed and placed in egg cartons.
Sampling (Leaves)	Leaf samples were collected by hand using a new pair of nitrile gloves for the collection of each sample and placed in a zip lock plastic bag.
Sample preservation and transport	• Eggs in egg cartons and fruit / leaves in zip lock plastic bags were immediately stored in an insulated cooler. • Samples were delivered to the laboratory by GHD Field Staff under Chain of Custody (COC) documentation.

3.4 Laboratory Analysis

Primary soil, water, biota and the blind field (intra-laboratory) replicate samples were submitted to Envirolab. Inter-laboratory QC samples were submitted to Australian Laboratory Services (ALS) for analysis. All laboratories are accredited by NATA for the analyses performed.

3.5 Quality Assurance and Quality Control

Quality Assurance/Quality Control (QA/QC) procedures, as summarised below and are consistent with the: National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPC) 1999 (as amended in 2013).

3.5.1 Field QA/QC

Field QA procedures included the following QC samples, and were aimed at assessing possible errors associated with cross contamination as well as inconsistencies in sampling and/or laboratory analytical techniques:

1. Equipment rinsate blank: used to assess whether decontamination procedures were sufficient and/or whether cross-contamination may have occurred between samples. Analyte concentrations within the rinsate blanks should be below the laboratory limits of reporting (LORs).
2. Intra-laboratory replicate (blind replicate) samples: submitted to the same (primary laboratory) to assess variation in analyte concentrations between samples collected from the same sampling point and/or the repeatability (precision) of the analytical procedures.
3. Inter-laboratory replicate (split) samples: submitted to a second laboratory to check on the analytical proficiency (accuracy) of the results produced by the primary laboratory.

The replicate sample results were assessed via the calculation of a relative percentage difference (RPD), as follows:

$$RPD = \frac{(Concentration\ 1 - Concentration\ 2) \times 100}{\left(\frac{Concentration\ 1 + Concentration\ 2}{2}\right)}$$

3.5.2 Laboratory QA/QC

Laboratory QA procedures generally included a number of internal checks of data precision and accuracy, aimed at assessing possible errors associated with sample preparation and analytical techniques. Specific types of QC samples analysed by laboratories, and the relevant acceptance criteria are as follows:

1. Internal laboratory replicate samples: maximum RPD values of 20% to 50%;
2. Spike (matrix and surrogate) recoveries: recoveries of between 70% and 140%; and
3. Laboratory control blanks: results below the laboratory LORs.

4. Assessment Criteria

The focus of the Preliminary Sampling was on PFASs which are regarded as the key contaminants of potential concern for the site.

Assessment criteria for this investigation have been derived from the following guideline documents:

- (HEPA), 2018. PFAS National Environmental Management Plan (NEMP), January 2018.
- Food Standards Australia New Zealand (FSANZ), 2016. Perfluorinated Chemical in Food, June 2016.

The values for the adopted screening / investigation levels from these sources, which are considered to protect potentially complete source receptor linkages, summarised in Table 4-1 (Soil), For the assessment of water samples collected from the firefighting appliances, GHD have developed a modified Interim Target Decontamination Criteria (ITDC). The ITDC are based on 10 x the Health-Based Recreational Water Quality Guidance

(Water), and Table 4-3 (Biota).

4.1 Soil

The NEMP has established generic PFAS soil assessment levels for several different population groups, including residents and commercial/industrial workers. These soil assessment levels take into account the different ways that residents and workers may be exposed to soil, and represent a level of PFAS in soil that is not expected to cause any type of adverse health effect to each population. Workers at the station may spend a significant amount of time there and undertake both occupational- and residential-type activities (e.g. gardening, housekeeping), making the fire stations neither fully applicable to either the residential land use or commercial industrial scenario as currently established under NEMP. For the purpose of assessing soil at MFS fire stations, the Residential B criteria has been adopted as a conservative measure.

Table 4-1 Adopted PFAS screening criteria (Soil)

Exposure Scenario	PFOS / PFHxS	PFOA
PFAS NEMP 2018 Human Health Screening Values Residential with minimal access to soil	2 mg/kg	20 mg/kg

4.2 Water

For the assessment of water samples collected from the firefighting appliances, GHD have developed a modified Interim Target Decontamination Criteria (ITDC). The ITDC are based on 10 x the Health-Based Recreational Water Quality Guidance

Table 4-2 Adopted PFAS interim screening criteria (Appliance Water)

Exposure Scenario	PFOS / PFHxS	PFOA
PFAS NEMP 2018 Water – Human Health Screening Values Drinking Water	0.07 µg/L	0.56 µg/L
PFAS NEMP 2018	0.7 µg/L	5.6 µg/L

Water – Human Health Screening Values Recreational Water		
ITDC	7 µg/L	56 µg/L

4.3 Biota

The most appropriate published criteria has been adopted from the Food Standards Australia and New Zealand.

Table 4-3 Adopted PFAS interim screening criteria (Biota)

Exposure Scenario	PFOS / PFHxS	PFOA
FSANZ Trigger Point Level for Fruit/vegetables	0.6 µg/kg	5.1 µg/kg
FSANZ Trigger Point Level for Poultry Eggs	0.011 µg/kg	0.085 µg/kg

5. Results

The following Tables (Table 5-1, Table 5-2, Table 5-3 and Table 5-4) summarise the analytical results of the current environmental investigation.

The Analytical Results Tables are presented at the end of this report and laboratory reports are provided in Appendix D.

Interpretation and discussion of the results is provided in Section 7.

Table 5-1 Summary of appliance water results

No. Primary Samples	Analyte	Criteria	ITDC exceedance value	Samples exceeding criteria
367	PFOS / PFHxS	ITDC (µg/L)	7	164_WD_D 164_WD_P 189_H_P Lox211-DPS REN165-DDS REN165-DPS REN165-M
	PFOA		56	Nil

Table 5-2 Summary of soil results

No. Primary Samples	Analyte	Criteria	Exceedance value	Samples exceeding criteria
61	PFOS / PFHxS	PFAS NEMP 2018 Soil – Human Health Screening Values Residential with minimal opportunities for soil access (mg/kg)	2	Nil
		PFAS NEMP 2018 Soil – Human Health Screening Values Industrial/Commercial (mg/kg)	20	Nil
	PFOA	PFAS NEMP 2018 Soil – Human Health Screening Values Residential with minimal opportunities for soil access (mg/kg)	20	Nil
		PFAS NEMP 2018 Soil – Human Health Screening Values Industrial/Commercial (mg/kg)	50	Nil

Table 5-3 Summary of biota results

No. Primary Samples	Analyte	Criteria	Exceedance value	Samples exceeding criteria
33	PFOS/PFHxS	FSANZ Trigger Point Level for Fruit (µg/kg)	0.6	Nil
		FSANZ Trigger Point Level for Poultry Eggs (µg/kg)	0.011	MG_EGGS yolk Port Adelaide_EGGS Yolks
	PFOA	FSANZ Trigger Point Level for Fruit (µg/kg)	5.1	Nil
		FSANZ Trigger Point Level for Poultry Eggs (µg/kg)	0.085	Nil

Table 5-4 Summary of non-appliance water results

No. Primary Samples	Analyte	Criteria	Exceedance value	Samples exceeding criteria
2	PFOS / PFHxS	PFAS NEMP 2018 Water – Health Recreational (µg/L)	0.07	MountGambier_SWP Glen_Oil
		PFAS NEMP 2018 Water – Health Drinking (µg/L)	0.7	Nil
	PFOA	PFAS NEMP 2018 Water – Health Recreational (µg/L)	0.56	Nil
		PFAS NEMP 2018 Water – Health Drinking (µg/L)	5.6	Nil

6. Quality assurance and quality control

Data Quality Indicators (DQIs), Field QA/QC, Laboratory QA/QC and Field QC Results are presented in Appendix E.

GHD considers the data to be valid and of sufficient quality for the purposes of this Environmental Investigation.

7. Discussion

7.1 Presence of PFAS within appliance water

Of the appliances sampled, a total of 31 appliances exceeded the PFHxS/PFOS PFAS Nemp 2018 Health Drinking Water. Of these appliances, 13 also exceeded for PFAS NEMP Health Recreational water. Of these appliances, four appliances exceeded the modified ITDC adopted from PFAS NEMP 2018, specifically:

- 164 Water Delivery, Drivers side
- 164 Water Delivery, Passenger side
- 189 Hose, Passenger side
- 211 Delivery, Passenger side
- 165-Delivery, Drivers side
- 165 Monitor

A single appliance exceeded adopted criteria for PFOA for PFAS NEMP 2018 Health Drinking Water (Appliance 165).

No water samples exceeded the Health Recreational Drinking Water Criteria adopted from PFAS NEMP 2018 for PFOA.

No water samples exceeded the modified Interim Target Decontamination Criteria adopted from PFAS NEMP 2018 for PFOA.

7.2 Presence of PFAS within soil

Of the stations sampled none exceed the PFAS NEMP 2018 Soil - Human Health Screening Values – Residential with Minimal Opportunities for Soil Access.

It is understood that the future MFS fire station operations will be consistent with medium density land use.

7.3 Presence of PFAS within biota

Concentrations of PFAS was identified in biota (egg yolks) at the following fire stations:

- Mount Gambier
- Port Adelaide

Both yolk and albumen samples were collected and analysed. All yolk samples collected contained PFOS/PFHxS concentrations that exceeded the FSANZ Trigger Point Level. This suggests that, if consumed, the egg yolks may represent a complete exposure pathway and future consumption should be treated with caution. None of the fruit, vegetable or herb samples collected exceeded the FSANZ Trigger Point Level at any of the fire stations.

7.4 Presence of PFAS within non-appliance water

Concentrations exceeding adopted criteria for PFOS/PFHxS for PFAS NEMP 2018 Water – Health Drinking were found in the two non-appliance water samples. These samples were taken from a storm water pipe in Mount Gambier MFS, and an oil sump in the Glen Osmond MFS.

8. Conclusions

- Of the appliances tested, four exceeded the modified ITDC for PFHxS and PFOS.
- PFAS NEMP 2018 Soil Human Health Screening Values for Residential with minimal opportunities for soil access criterion was not exceeded at any fire station.
- The two egg yolk samples collected and detailed in this report contained PFOS/PFHxS concentrations that exceeded the FSANZ Trigger Point Level. Information provided by MFS indicated that at the time that this report was produced the consumption of poultry produce reared on the sites investigated had ceased. Thus rendering the pathway incomplete.
- The two non-appliance water samples collected and detailed in this report contained PFOS/PFHxS that exceeded the PFAS NEMP 2018 Water – Health Drinking criteria.

9. Limitations

This report: has been prepared by GHD for South Australian Metropolitan Fire Service and *may only be used and relied on by South Australian Metropolitan Fire Service for the purpose agreed between GHD and the South Australian Metropolitan Fire Service.*

GHD otherwise disclaims responsibility to any person other than South Australian Metropolitan Fire Service arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

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

Site conditions (including the presence of hazardous substances and/or site contamination) may change after the date of this Report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change.

10. References

- EPA South Australia 2018, Guideline on Assessment and Remediation of Site Contamination
- PFAS National Environnent Management Plan 2018. Heads of EPAs Australia
- Food Standards Australia New Zealand 2016, Perfluorinated chemical in food
- NEPC 2013, National Environment Protection Council National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013, National Environment Protection Council

Table 7 - List of Appliances

Fleet number	Sample location	Sample date
83	Adelaide MFS	29/01/2019
1101	Adelaide MFS	31/01/2019
1102	Adelaide MFS	29/01/2019
1303	Angle Park MFS	22/01/2019
163	Angle Park Training Centre	25/01/2019
164	Angle Park Training Centre	25/01/2019
189	Angle Park Training Centre	25/01/2019
194	Angle Park Training Centre	25/01/2019
601	Berri MFS	22/01/2019
609	Berri MFS	22/01/2019
80	Beulah Park MFS	22/01/2019
1007	Brooklyn Park MFS	23/01/2019
1009	Camden Park MFS	23/01/2019
1603	Christie Downs MFS	21/01/2019
1702	Christie Downs MFS	21/01/2019
193	Elizabeth MFS	22/01/2019
1103	Elizabeth MFS	22/01/2019
1304	Gawler MFS	21/01/2019
1703	Glen Osmond MFS	27/03/2019
1701	Golden Grove MFS	21/01/2019
178	Kadina MFS	21/01/2019
641	Kapunda MFS	22/01/2019
202	Loxton MFS	23/01/2019
211	Loxton MFS	23/01/2019
193	Moonta MFS	21/01/2019
98	Mount Gambier MFS	23/01/2019
188	Mount Gambier MFS	23/01/2019
210	Mount Gambier MFS	23/01/2019
1401	Mount Gambier MFS	23/01/2019
88	Murray Bridge MFS	22/01/2019
185	Murray Bridge MFS	22/01/2019
1002	O'Halloran Hill MFS	21/01/2019
1305	Paradise MFS	21/01/2019
97	Peterborough MFS	24/01/2019
1301	Port Adelaide MFS	22/01/2019
172	Port Augusta MFS	22/01/2019
179	Port Augusta MFS	22/01/2019
201	Port Augusta MFS	22/01/2019
206	Port Augusta MFS	22/01/2019
151	Port Lincoln MFS	23/01/2019
175	Port Lincoln MFS	23/01/2019
212	Port Lincoln MFS	23/01/2019
1014	Port Lincoln MFS	23/01/2019
196	Port Pirie MFS	22/01/2019
205	Port Pirie MFS	22/01/2019
980	Port Pirie MFS	22/01/2019
1003	Port Pirie MFS	22/01/2019
81	Prospect MFS	22/01/2019
140	Renmark MFS	23/01/2019

Table 7 - List of Appliances

165	Renmark MFS	23/01/2019
200	Renmark MFS	23/01/2019
208	Renmark MFS	23/01/2019
204	Salisbury MFS	21/01/2019
1006	Salisbury MFS	21/01/2019
1704	Salisbury MFS	21/01/2019
1001	Seaford MFS	21/01/2019
1005	St Marys MFS	23/01/2019
1706	St Marys MFS	23/01/2019
631	Tanunda MFS	22/01/2019
639	Tanunda MFS	22/01/2019
87	Victor Harbor MFS	23/01/2019
187	Victor Harbor MFS	23/01/2019
1012	Victor Harbor MFS	23/01/2019
191	Wallaroo MFS	21/01/2019
176	Whyalla MFS	23/01/2019
186	Whyalla MFS	23/01/2019
203	Whyalla MFS	23/01/2019
207	Whyalla MFS	23/01/2019
1501	Whyalla MFS	23/01/2019
1008	Woodville MFS	22/01/2019
1707	Woodville MFS	22/01/2019

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 7 14 21 28 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Mount Gambier
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 1

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 7 14 21 28 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Victor Harbor
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 2

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Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Murray Bridge
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 3

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Data Sources: Google Earth 2018
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Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Loxton
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 4

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Data Sources: Google Earth 2018
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Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

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Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 5

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Data Sources: Google Earth 2018
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Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Renmark
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 6

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Seaford
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 7

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

Christie Downs
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 8

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

O'halloran Hill
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 9

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

St Marys
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 10

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Camden Park
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 11

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Brooklyn Park
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 12

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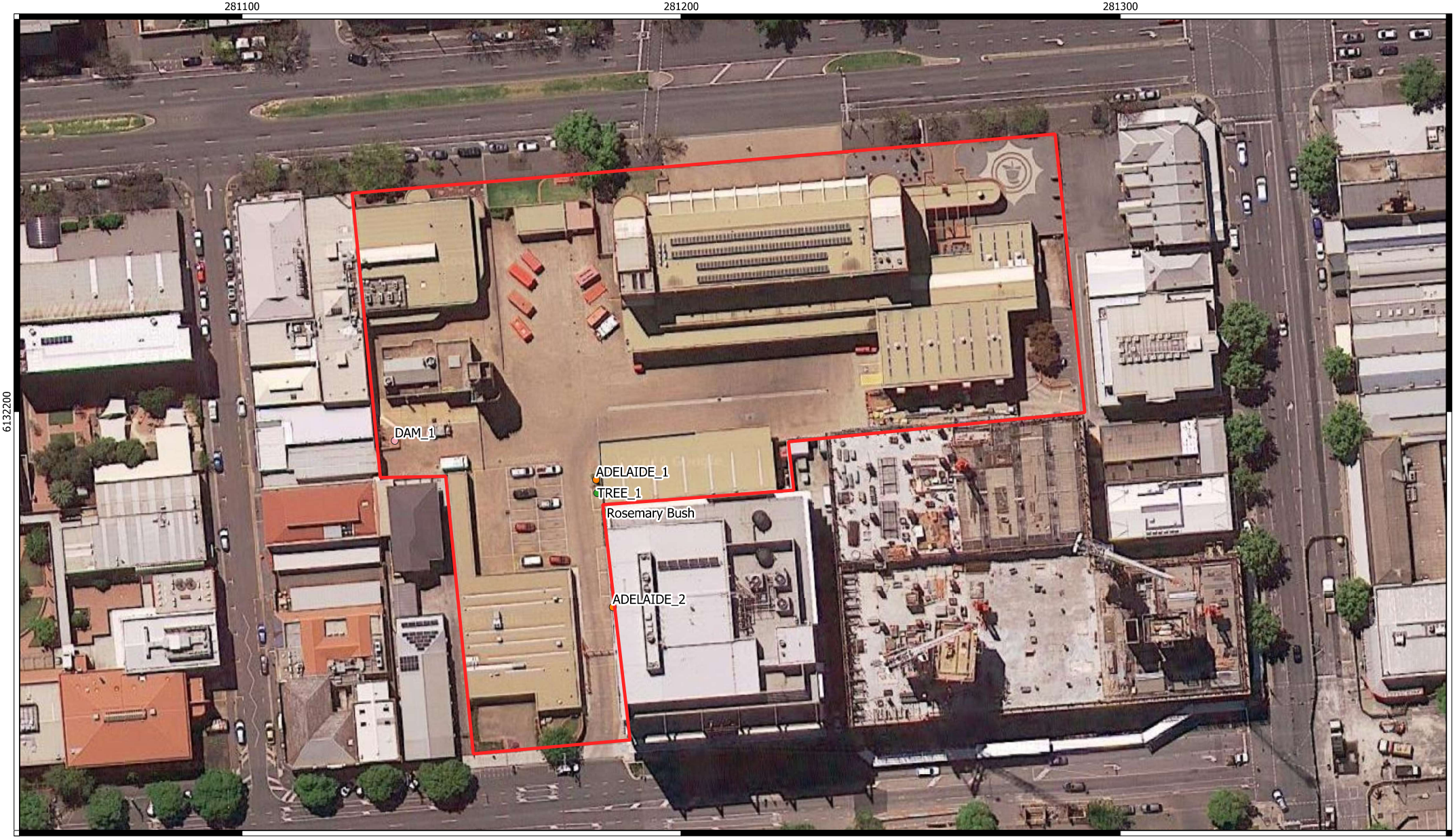
Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK



Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 8 16 24 32 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Adelaide
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 13

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Beulah Park
Sample Location Plan

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Date: 19/03/2019

Figure 14

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Woodville
Sample Location Plan

Job: 3319080
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Date: 19/03/2019

Figure 15

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Prospect
Sample Location Plan

Job: 3319080
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Date: 19/03/2019

Figure 16

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Paradise
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 17

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Port Adelaide
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 18

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Angle Park Training Area Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 19

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Angle Park
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 20

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Golden Grove
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 21

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Site
- Soil
- Sediment

Paper size: A3

0 10 20 30 40 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Salisbury
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 22

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Elizabeth
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 23

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Gawler
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 24

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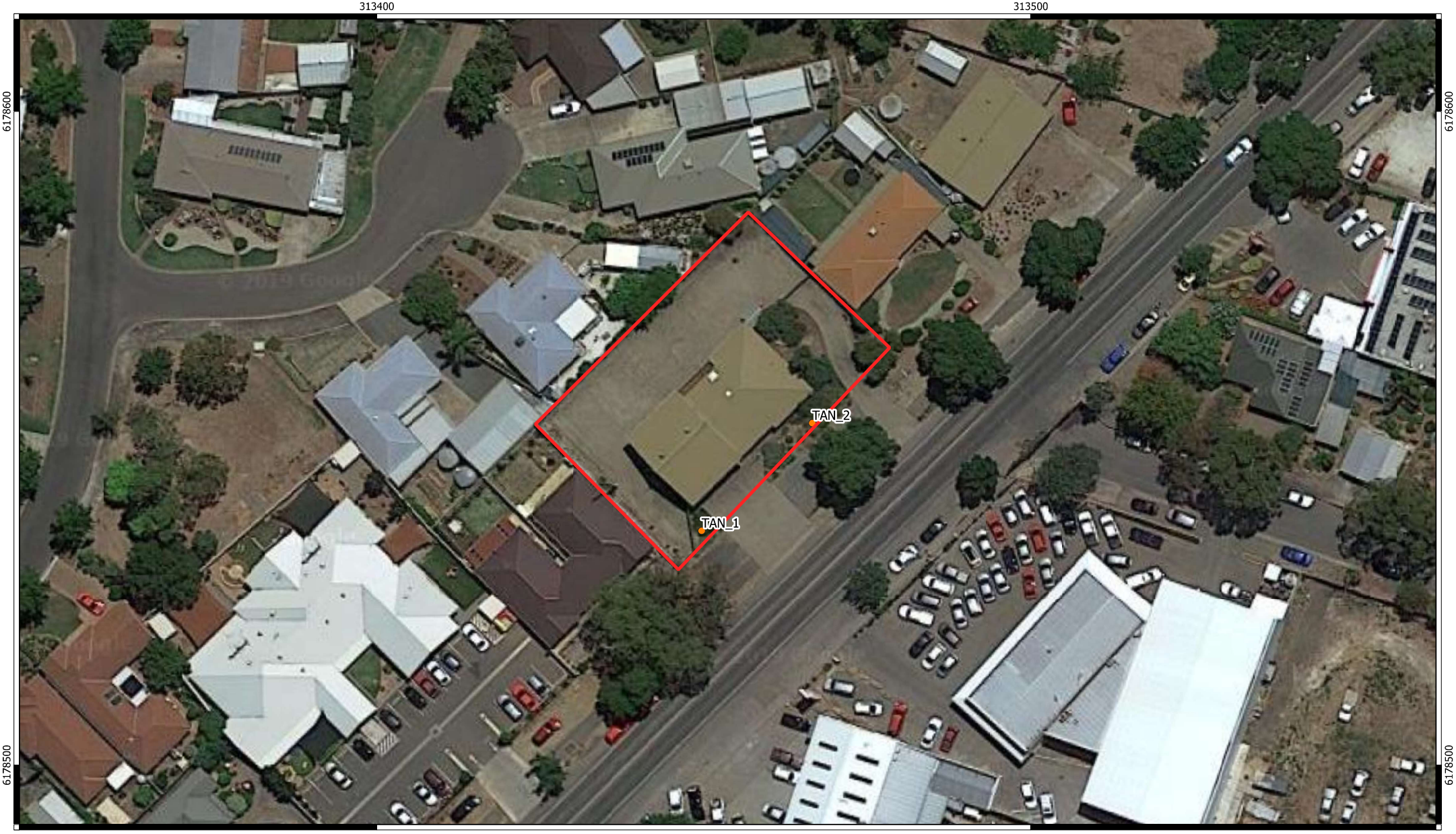
Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK



Legend

- Site Boundary
- Biota
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

Tanunda
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 25

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

- Site Boundary
- Biota
- Soil
- Sediment

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Kapunda
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 26

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

Site Boundary Soil

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Moonta
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 27

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

Site Boundary Soil

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

Kadina
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 28

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

Site Boundary Soil

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Wallaroo
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 29

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

Site Boundary Soil

Paper size: A3

0 10 20 30 40 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Port Pirie
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 30

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

Site Boundary Soil

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Peterborough
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 31

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

Site Boundary Soil

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Port Augusta
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 32

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

Site Boundary Soil

Paper size: A3

0 8 16 24 32 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

Whyalla
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 33

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Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Legend

Site Boundary Soil

Paper size: A3

0 5 10 15 20 m

Map Projection: +proj=utm +zone=54 +south +ellps=GRS80 +towgs84=0,0,0,0,0,0,0 +units=m +no_defs
Coordinate System: EPSG:28354

GHD

Port Lincoln
Sample Location Plan

Job: 3319080
Revision: A
Date: 19/03/2019

Figure 34

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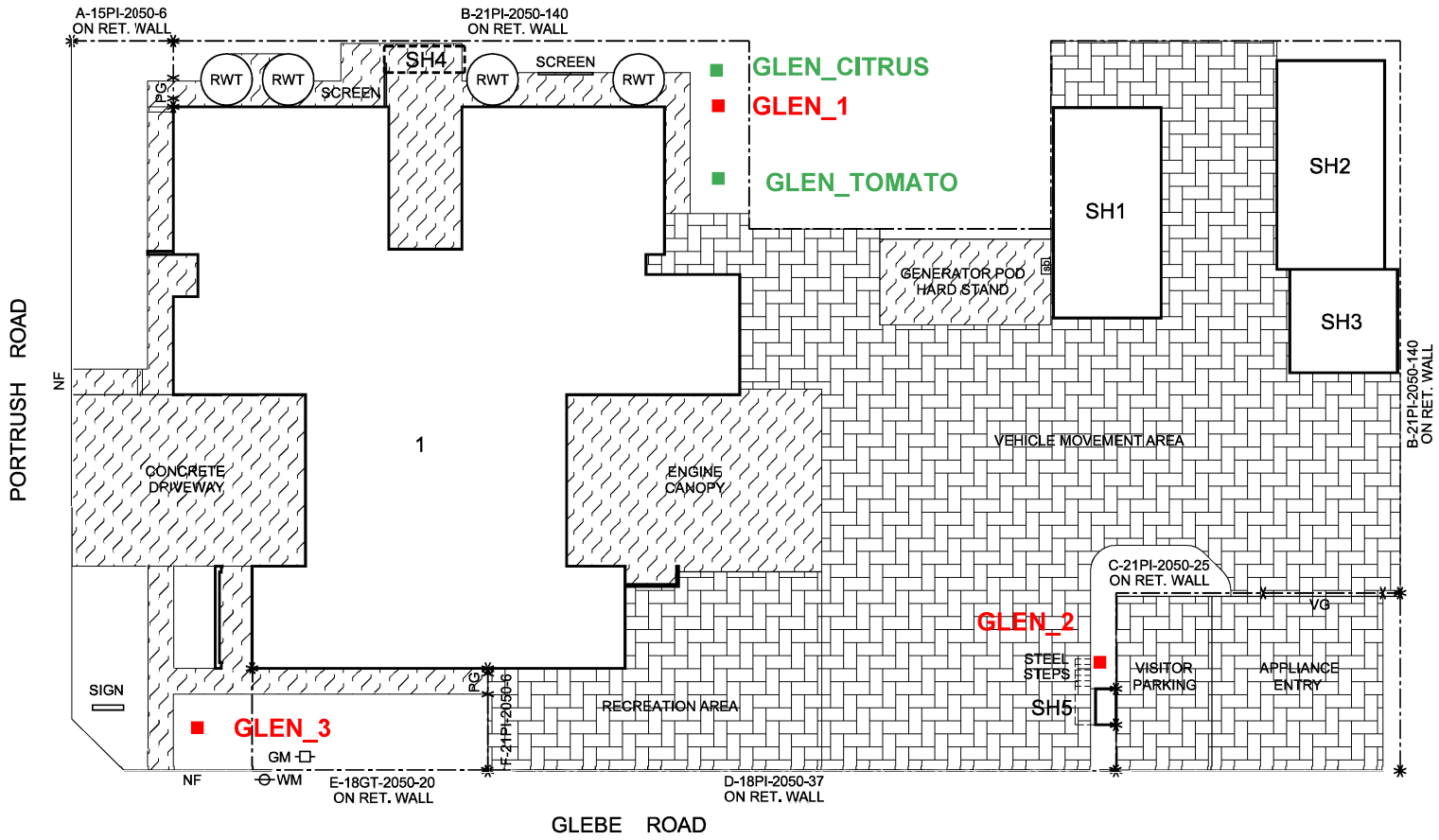
Data Sources: Google Earth 2018
C:\Users\jkirk3\Desktop\New folder\QGIS\MFS\MFS.qgz

Author: JK

Scale Bar Units in Metres (1:300) Plot at a scale of 1=0.3 All dimensions to be verified on site

Figure 35: Glen Osmond Sample Location Plan



BUILDINGS

1	FIRE STATION
SH1	COLORBOND GARAGE
SH2	COLORBOND GARAGE
SH3	COLORBOND STORE
SH4	TIMBER PERGOLA
SH5	COLORBOND LAUNDRY SHED

PAVING DETAILS: Location, Type, Fail year, Area (sq ms)

A bitumen xxxx xxx	B bit veh xxxx xxx

FENCES *code-height-type-fail date-length (ms)*

CI corrugated iron	PW post and wire
CM chain mesh	WM weld mesh
GT galtube	NF not fenced
PG pedestrian gate	VG vehicle gate

WM *Water Meter* — *Fence junction*
GM *Gas Meter* — PMT *Pad mtd trans*

GLEN OSMOND
SAMFS FIRE STATION
582 PORTRUSH ROAD
GLEN OSMOND 5064

Government of South Australia
Department of Planning, Transport and Infrastructure

Asset no.	*08609*	Client.	*SAFECOM*
DPTI Office.	*ADELAIDE*	Sheet.	*1 of 1*
Created by.	*Survcad*		*R.L.Chapman Feb 2014*
Modified by.	*Survcad*		*R.L.Chapman Feb 2014*
Audited by.	-	-	-
Title details.	*refer layer " site-allotment "*		
Site area.	*0.3118 ha*	Accuracy.	*Site Survey*

Strategic Asset Management Information System Plan

SAMIS 08609

				PFAS							
				Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Interim Target Decontamination Criteria (ITDC)						56				7	
PFAS NEMP 2018 Health Drinking Water						0.56				0.07	
PFAS NEMP 2018 Health Recreational Water						5.6				0.7	
Site ID	**Location Code**	**Date**	**Field ID**								
Adelaide MFS	83_H_DS	29/01/2019	083_H_D	<0.01	0.06	0.01	0.45	0.099	0.61	0.06	0.07
Adelaide MFS	83_H_PS	29/01/2019	083_H_P	<0.01	<0.01	<0.01	0.07	0.02	0.09	<0.01	<0.01
Adelaide MFS	83_Monitor	29/01/2019	083_M	<0.01	<0.01	<0.01	0.08	0.03	0.10	<0.01	<0.01
Adelaide MFS	83_Water tank	29/01/2019	083_WT	<0.01	<0.01	<0.01	0.07	0.03	0.1	<0.01	<0.01
Adelaide MFS	83_WD_DS	29/01/2019	083_WD_D	<0.01	<0.01	<0.01	0.07	0.03	0.09	<0.01	<0.01
Adelaide MFS	83_WD_PS	29/01/2019	083_WD_P	<0.01	<0.01	<0.01	0.06	0.03	0.09	<0.01	<0.01
Adelaide MFS	1101_H_DS	31/01/2019	ADL1101-RDS	<0.01	<0.01	<0.01	0.12	0.08	0.20	<0.01	<0.01
Adelaide MFS	1101_H_PS	31/01/2019	ADL1101-RPS	<0.01	<0.01	<0.01	0.17	0.04	0.21	<0.01	<0.01
Adelaide MFS	1101_Monitor	31/01/2019	ADL1101-M	<0.01	<0.01	<0.01	0.14	0.01	0.15	<0.01	<0.01
Adelaide MFS	1101_Water tank	31/01/2019	ADL1101-T	<0.01	<0.01	<0.01	0.13	0.02	0.15	<0.01	<0.01
Adelaide MFS	1101_WD_DS	31/01/2019	ADL1101-DDS	<0.01	<0.01	<0.01	0.30	0.03	0.33	<0.01	<0.01
Adelaide MFS	1101_WD_PS	31/01/2019	ADL1101-DPS	<0.01	<0.01	<0.01	0.14	0.02	0.17	<0.01	<0.01
Adelaide MFS	1102_H_DS	29/01/2019	1102_H_D	<0.01	<0.01	<0.01	0.14	0.09	0.23	<0.01	<0.01
Adelaide MFS	1102_H_PS	29/01/2019	1102_H_H	<0.01	<0.01	<0.01	0.02	0.01	0.03	<0.01	<0.01
Adelaide MFS	1102_Water tank	29/01/2019	1102_WT	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Adelaide MFS	1102_WD_DS	29/01/2019	1102_WD_D	<0.01	<0.01	<0.01	0.03	0.03	0.06	<0.01	<0.01
Adelaide MFS	1102_WD_PS	29/01/2019	1102_WD_P	<0.01	<0.01	<0.01	0.03	0.01	0.05	<0.01	<0.01
Angle Park MFS	1303_H_DS	22/01/2019	1303_H_D	<0.01	<0.01	<0.01	0.04	<0.01	0.04	<0.01	<0.01
Angle Park MFS	1303_H_PS	22/01/2019	1303_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Angle Park MFS	1303_Monitor	22/01/2019	1303_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Angle Park MFS	1303_Water tank	22/01/2019	1303_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Angle Park MFS	1303_WD_DS	22/01/2019	1303_WD_D	<0.01	<0.01	<0.01	0.03	<0.01	0.03	<0.01	<0.01
Angle Park MFS	1303_WD_PS	22/01/2019	1303_WD_P	<0.01	<0.01	<0.01	0.11	0.01	0.12	<0.01	<0.01
Angle Park Training Centre	163_H_DS	25/01/2019	163_H_D	0.07	0.43	0.1	0.75	0.48	1.8	0.50	0.53
Angle Park Training Centre	163_H_PS	25/01/2019	163_H_P	0.01	0.27	0.03	0.56	0.12	0.99	0.28	0.30
Angle Park Training Centre	163_Monitor	25/01/2019	163_M	0.25	0.92	0.06	0.87	0.31	2.4	1.2	0.98
Angle Park Training Centre	163_Water tank	25/01/2019	163_WT	<0.01	0.04	0.04	0.39	0.26	0.73	0.04	0.08
Angle Park Training Centre	163_WD_DS	25/01/2019	163_WD_D	0.30	1.8	0.35	3.4	1.0	6.9	2.1	2.1
Angle Park Training Centre	163_WD_DS	25/01/2019	164_WD_D	0.94	9.0	0.17	0.74	0.27	11	9.9	9.2
Angle Park Training Centre	163_WD_PS	25/01/2019	163_WD_P	0.34	1.6	0.20	2.2	0.91	5.2	1.9	1.8
Angle Park Training Centre	164_H_DS	25/01/2019	164_H_D	0.06	0.69	0.04	1.1	0.23	2.1	0.75	0.73
Angle Park Training Centre	164_H_PS	25/01/2019	164_H_P	0.11	1.1	0.07	1.3	0.29	2.9	1.2	1.1
Angle Park Training Centre	164_Monitor	25/01/2019	164_M	0.48	3.6	0.09	0.33	0.23	4.8	4.1	3.7
Angle Park Training Centre	164_Water tank	25/01/2019	164_WT	0.22	0.90	0.04	0.01	<0.01	1.2	1.1	0.93
Angle Park Training Centre	164_WD_PS	25/01/2019	164_WD_P	1.1	21	0.25	0.48	0.26	23	22	21
Angle Park Training Centre	189_Monitor	25/01/2019	189_M	0.02	0.49	<0.01	0.01	<0.01	0.52	0.50	0.49
Angle Park Training Centre	189_Water tank	25/01/2019	189_WT	0.04	0.33	0.05	0.01	<0.01	0.43	0.37	0.38
Angle Park Training Centre	189_WD_DS	25/01/2019	189_WD_D	0.09	0.75	0.04	0.05	0.02	0.95	0.84	0.79
Angle Park Training Centre	189_WD_PS	25/01/2019	189_WD_P	0.12	1.1	0.06	0.07	0.02	1.3	1.2	1.1
Angle Park Training Centre	194_H_DS	25/01/2019	189_H_D	0.21	3.2	0.08	0.65	0.32	4.5	3.4	3.3
Angle Park Training Centre	194_H_DS	25/01/2019	194_H_D	0.05	0.11	0.05	0.02	<0.01	0.22	0.15	0.16
Angle Park Training Centre	194_H_PS	25/01/2019	189_H_P	1.5	17	0.04	0.05	0.02	19	18	17
Angle Park Training Centre	194_H_PS	25/01/2019	194_H_P	0.03	0.20	0.01	0.09	0.02	0.34	0.22	0.21

				PFAS							
				Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Interim Target Decontamination Criteria (ITDC)						56				7	
PFAS NEMP 2018 Health Drinking Water						0.56				0.07	
PFAS NEMP 2018 Health Recreational Water						5.6				0.7	
Site ID	**Location Code**	**Date**	**Field ID**								
Angle Park Training Centre	194_Monitor	25/01/2019	194_M	0.02	0.1	<0.01	0.05	0.04	0.20	0.11	0.1
Angle Park Training Centre	194_Water tank	25/01/2019	194_WT	0.01	0.14	0.04	0.01	0.02	0.22	0.15	0.18
Angle Park Training Centre	194_WD_DS	25/01/2019	194_WD_D	0.01	0.15	0.01	0.05	0.04	0.27	0.17	0.16
Angle Park Training Centre	194_WD_PS	25/01/2019	194_WD_P	0.02	0.21	0.02	0.06	0.03	0.33	0.22	0.23
Berri MFS	601_H_DS	22/01/2019	BER601-RDS	<0.01	<0.01	0.01	0.14	0.11	0.26	<0.01	0.01
Berri MFS	601_H_DS	22/01/2019	BER609-RDS	0.02	0.15	<0.01	<0.01	<0.01	0.16	0.16	0.15
Berri MFS	601_H_PS	22/01/2019	BER601-RPS	<0.01	<0.01	0.02	0.17	0.09	0.28	<0.01	0.02
Berri MFS	601_H_PS	22/01/2019	BER609-RPS	<0.01	0.06	<0.01	<0.01	<0.01	0.06	0.06	0.06
Berri MFS	601_Monitor	22/01/2019	BER601-M	<0.01	<0.01	<0.01	0.02	0.02	0.03	<0.01	<0.01
Berri MFS	601_Water tank	22/01/2019	BER601-T	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Berri MFS	601_WD_DS	22/01/2019	BER601-DDS	1.1	2.1	0.22	0.15	0.1	3.7	3.2	2.4
Berri MFS	601_WD_PS	22/01/2019	BER601-DPS	<0.01	<0.01	0.02	0.14	0.07	0.23	<0.01	0.02
Berri MFS	601_WD_PS	22/01/2019	BER6014-DPS	<0.01	0.02	0.08	0.67	0.27	1.0	0.02	0.1
Berri MFS	609_H_PS	22/01/2019	BER6014-RPS	<0.01	0.05	0.02	0.24	0.17	0.48	0.05	0.07
Berri MFS	609_Monitor	22/01/2019	BER609-M	<0.01	0.03	<0.01	<0.01	<0.01	0.03	0.03	0.03
Berri MFS	609_Water tank	22/01/2019	BER609-T	<0.01	0.03	<0.01	<0.01	<0.01	0.03	0.03	0.03
Berri MFS	609_WD_DS	22/01/2019	BER609-DDS	0.01	0.14	<0.01	0.02	<0.01	0.17	0.15	0.14
Berri MFS	609_WD_PS	22/01/2019	BER609-DPS	<0.01	0.11	<0.01	<0.01	<0.01	0.11	0.11	0.11
Beulah Park MFS	80_H_DS	22/01/2019	080_H_D	<0.01	<0.01	<0.01	0.05	0.03	0.07	<0.01	<0.01
Beulah Park MFS	80_H_PS	22/01/2019	080_H_P	<0.01	0.04	<0.01	0.02	<0.01	0.06	0.04	0.04
Beulah Park MFS	80_Monitor	22/01/2019	080_Monitor	<0.01	<0.01	<0.01	0.03	<0.01	0.03	<0.01	<0.01
Beulah Park MFS	80_Water tank	22/01/2019	080_WT	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Beulah Park MFS	80_WD_DS	22/01/2019	080_WD_D	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Beulah Park MFS	80_WD_PS	22/01/2019	080_WD_P	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Brooklyn Park MFS	1007_H_DS	23/01/2019	1007_H_D	<0.01	<0.01	<0.01	0.13	0.03	0.17	<0.01	<0.01
Brooklyn Park MFS	1007_H_PS	23/01/2019	1007_H_P	<0.01	<0.01	<0.01	0.02	0.01	0.03	<0.01	<0.01
Brooklyn Park MFS	1007_Monitor	23/01/2019	1007_M	<0.01	<0.01	<0.01	0.04	0.01	0.05	<0.01	<0.01
Brooklyn Park MFS	1007_Water tank	23/01/2019	1007_WT	<0.01	<0.01	<0.01	0.04	<0.01	0.04	<0.01	<0.01
Brooklyn Park MFS	1007_WD_DS	23/01/2019	1007_WD_D	<0.01	<0.01	<0.01	0.10	0.02	0.12	<0.01	<0.01
Brooklyn Park MFS	1007_WD_PS	23/01/2019	1007_WD_P	<0.01	<0.01	<0.01	0.07	0.02	0.09	<0.01	<0.01
Camden Park MFS	1009_H_DS	23/01/2019	1009_H_D	<0.01	0.01	<0.01	0.01	<0.01	0.03	0.01	0.01
Camden Park MFS	1009_H_PS	23/01/2019	1009_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Camden Park MFS	1009_Monitor	23/01/2019	1009_M	<0.01	0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01
Camden Park MFS	1009_Water tank	23/01/2019	1009_WT	<0.01	0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01
Camden Park MFS	1009_WD_DS	23/01/2019	1009_WD_D	<0.01	0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01
Camden Park MFS	1009_WD_PS	23/01/2019	1009_WD_P	<0.01	0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01
Christie Downs MFS	1603_H_DS	21/01/2019	1603_H_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1603_H_PS	21/01/2019	1603_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1603_Monitor	21/01/2019	1603_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1603_Water tank	21/01/2019	1603_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1603_WD_DS	21/01/2019	1603_WD_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1603_WD_PS	21/01/2019	1603_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1702_H_DS	21/01/2019	1702_H_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

	PFAS							
	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Interim Target Decontamination Criteria (ITDC)			56				7	
PFAS NEMP 2018 Health Drinking Water			0.56				0.07	
PFAS NEMP 2018 Health Recreational Water			5.6				0.7	

Site ID	Location Code	Date	Field ID								
Christie Downs MFS	1702_H_PS	21/01/2019	1702_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1702_Monitor	21/01/2019	1702_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1702_Water tank	21/01/2019	1702_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1702_WD_DS	21/01/2019	1702_WD_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Christie Downs MFS	1702_WD_PS	21/01/2019	1702_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Elizabeth MFS	193_H_DS	22/01/2019	193_H_D	<0.01	0.01	<0.01	0.01	<0.01	0.02	0.01	0.01
Elizabeth MFS	193_H_PS	22/01/2019	193_H_P	0.03	0.22	<0.01	0.02	<0.01	0.27	0.25	0.22
Elizabeth MFS	193_Monitor	22/01/2019	193_Monitor	0.05	0.28	<0.01	0.03	<0.01	0.35	0.33	0.28
Elizabeth MFS	193_Water tank	22/01/2019	193_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Elizabeth MFS	193_WD_DS	22/01/2019	193_WD_D	0.03	0.20	<0.01	0.04	0.01	0.28	0.23	0.20
Elizabeth MFS	193_WD_PS	22/01/2019	193_WD_P	<0.01	0.02	<0.01	0.02	<0.01	0.03	0.02	0.02
Elizabeth MFS	1103_H_DS	22/01/2019	1103_H_D	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Elizabeth MFS	1103_H_PS	22/01/2019	1103_H_P	<0.01	0.03	<0.01	0.01	0.02	0.06	0.03	0.03
Elizabeth MFS	1103_Monitor	22/01/2019	1103_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Elizabeth MFS	1103_Water tank	22/01/2019	1103_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Elizabeth MFS	1103_WD_DS	22/01/2019	1103_WD_D	<0.01	<0.01	<0.01	0.04	0.02	0.06	<0.01	<0.01
Elizabeth MFS	1103_WD_PS	22/01/2019	1103_WD_P	<0.01	<0.01	<0.01	0.27	0.05	0.32	<0.01	<0.01
Gawler MFS	1304_H_DS	21/01/2019	1304_H_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Gawler MFS	1304_H_PS	21/01/2019	1304_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Gawler MFS	1304_Monitor	21/01/2019	1304_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Gawler MFS	1304_Water tank	21/01/2019	1304_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Gawler MFS	1304_WD_DS	21/01/2019	1304_WD_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Gawler MFS	1304_WD_PS	21/01/2019	1304_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Glen Osmond MFS	1703_Monitor	27/03/2019	1703_M	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Glen Osmond MFS	1703_Water Tank	27/03/2019	1703_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Glen Osmond MFS	1703_Hose Driverside	27/03/2019	1703_H_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Glen Osmond MFS	1703_Hose Passenger	27/03/2019	1703_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Glen Osmond MFS	1703_Water Delivery Driver	27/03/2019	1703_WD_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Glen Osmond MFS	1703_Water Delivery Passe	27/03/2019	1703_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Golden Grove MFS	1701_H_DS	21/01/2019	1701_H_D	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Golden Grove MFS	1701_H_PS	21/01/2019	1701_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Golden Grove MFS	1701_Monitor	21/01/2019	1701_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Golden Grove MFS	1701_Water tank	21/01/2019	1701_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Golden Grove MFS	1701_WD_DS	21/01/2019	1701_WD_D	<0.01	0.01	<0.01	0.02	<0.01	0.03	0.01	0.01
Golden Grove MFS	1701_WD_PS	21/01/2019	1701_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Kadina MFS	K178_H_DS	21/012019	K178_hose R	<0.01	0.01	0.04	0.19	0.39	0.63	0.01	0.05
Kadina MFS	K178_H_PS	21/012019	K178_hose L	<0.01	<0.01	<0.01	0.05	0.13	0.18	<0.01	<0.01
Kadina MFS	K178_Monitor	21/012019	K178_mointor	<0.01	0.01	<0.01	0.05	0.07	0.14	0.01	0.01
Kadina MFS	K178_Water tank	21/012019	K178_tank	<0.01	0.02	<0.01	0.06	0.08	0.16	0.02	0.02
Kadina MFS	K178_WD_DS	21/012019	K178_delivery R	<0.01	0.05	0.03	0.22	0.20	0.49	0.05	0.08
Kadina MFS	K178_WD_PS	21/012019	K178_delivery L	<0.01	0.34	0.05	0.31	0.24	0.94	0.34	0.39
Kapunda MFS	641_H_DS	22/01/2019	KAP641-RDS	<0.01	0.02	<0.01	0.01	0.02	0.05	0.02	0.02
Kapunda MFS	641_H_PS	22/01/2019	KAP641-RPS	<0.01	<0.01	<0.01	0.02	0.02	0.04	<0.01	<0.01

				PFAS							
				Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Interim Target Decontamination Criteria (ITDC)						56				7	
PFAS NEMP 2018 Health Drinking Water						0.56				0.07	
PFAS NEMP 2018 Health Recreational Water						5.6				0.7	
Site ID	**Location Code**	**Date**	**Field ID**								
Kapunda MFS	641_WD_DS	22/01/2019	KAP641-DDS	<0.01	<0.01	<0.01	0.03	0.03	0.06	<0.01	<0.01
Kapunda MFS	641_WD_PS	22/01/2019	KAP641-DPS	<0.01	<0.01	<0.01	0.02	0.02	0.03	<0.01	<0.01
Loxton MFS	202_H_DS	23/01/2019	Lox202-RDS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Loxton MFS	202_H_PS	23/01/2019	Lox202-RPS	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	0.01
Loxton MFS	202_Water tank	23/01/2019	Lox202-T	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Loxton MFS	202_WD_DS	23/01/2019	Lox202-DDS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Loxton MFS	202_WD_PS	23/01/2019	Lox202-DPS	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.02	0.02
Loxton MFS	211_H_DS	23/01/2019	Lox211-DPS	0.67	12	0.11	<0.01	<0.01	13	13	12
Loxton MFS	211_H_PS	23/01/2019	Lox211-RPS	0.30	5.3	0.03	0.01	<0.01	5.6	5.6	5.3
Moonta MFS	193_H_DS	21/012019	193_hose R	0.21	1.9	0.07	0.03	0.03	2.2	2.1	1.9
Moonta MFS	193_H_PS	21/012019	193_hose L	<0.01	0.06	0.01	0.05	0.04	0.16	0.06	0.07
Moonta MFS	193_Water tank	21/012019	193_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Moonta MFS	193_WD_DS	21/012019	193_delivery R	<0.01	0.02	<0.01	0.03	0.03	0.07	0.02	0.02
Moonta MFS	193_WD_PS	21/012019	193_delivery L	<0.01	0.02	<0.01	0.03	0.02	0.07	0.02	0.02
Mount Gambier MFS	98_H_DS	23/01/2019	098-Driver Hose Reel	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Mount Gambier MFS	98_H_PS	23/01/2019	098- Passenger Hose Reel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mount Gambier MFS	98_Monitor	23/01/2019	098- Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mount Gambier MFS	98_Water tank	23/01/2019	098 - Tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mount Gambier MFS	98_WD_DS	23/01/2019	098-Driver Delivery	<0.01	<0.01	<0.01	0.02	0.02	0.04	<0.01	<0.01
Mount Gambier MFS	98_WD_PS	23/01/2019	098-Passenger Delivery	<0.01	<0.01	<0.01	0.02	0.02	0.04	<0.01	<0.01
Mount Gambier MFS	188_H_DS	23/01/2019	188-Drivers Hose Reel	<0.01	0.02	0.03	0.44	0.28	0.77	0.02	0.05
Mount Gambier MFS	188_H_PS	23/01/2019	188-Passenger Hose Reel	<0.01	0.09	<0.01	0.08	0.05	0.22	0.09	0.09
Mount Gambier MFS	188_Monitor	23/01/2019	188- Monitor	<0.01	0.01	<0.01	0.03	0.01	0.05	0.01	0.01
Mount Gambier MFS	188_Water tank	23/01/2019	188 - Tank	<0.01	<0.01	<0.01	0.02	0.01	0.03	<0.01	<0.01
Mount Gambier MFS	188_WD_DS	23/01/2019	188- Driver Delivery	<0.01	<0.01	<0.01	0.03	0.01	0.04	<0.01	<0.01
Mount Gambier MFS	188_WD_PS	23/01/2019	188- Passenger Delivery	<0.01	0.02	<0.01	0.04	0.03	0.09	0.02	0.02
Mount Gambier MFS	210_H_PS	23/01/2019	210-Hose Reel	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.02	0.02
Mount Gambier MFS	210_Water tank	23/01/2019	210-Tank	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.02	0.02
Mount Gambier MFS	210_WD_PS	23/01/2019	210-Delivery	0.10	1.3	0.02	<0.01	<0.01	1.5	1.4	1.4
Mount Gambier MFS	1401_H_DS	23/01/2019	1401-Driver Hose Reel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mount Gambier MFS	1401_H_PS	23/01/2019	1401- Passenger Hose Reel	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mount Gambier MFS	1401_Monitor	23/01/2019	1401- Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mount Gambier MFS	1401_Water tank	23/01/2019	1401 - Tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mount Gambier MFS	1401_WD_DS	23/01/2019	1401-Driver Delivery	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mount Gambier MFS	1401_WD_PS	23/01/2019	1401- Passenger Delivery	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Murray Bridge MFS	88_H_DS	22/01/2019	088-Driver Delivery	<0.01	0.22	0.02	0.13	0.09	0.45	0.22	0.24
Murray Bridge MFS	88_H_DS	22/01/2019	088-Driver Hose Reel	<0.01	<0.01	0.02	0.42	0.11	0.56	<0.01	0.02
Murray Bridge MFS	88_H_PS	22/01/2019	088-Passenger Hose Reel	0.01	0.22	0.04	0.34	0.15	0.76	0.23	0.26
Murray Bridge MFS	88_Water tank	22/01/2019	088-Tank	<0.01	<0.01	<0.01	0.02	0.01	0.03	<0.01	<0.01
Murray Bridge MFS	88_WD_PS	22/01/2019	088-Passenger Delivery	<0.01	0.06	<0.01	0.10	0.04	0.20	0.06	0.06
Murray Bridge MFS	185_H_DS	22/01/2019	185-Drivers Hose Reel	<0.01	0.10	0.01	0.14	0.11	0.36	0.10	0.11
Murray Bridge MFS	185_H_PS	22/01/2019	185-Passenger Hose Reel	<0.01	0.09	0.02	0.19	0.06	0.36	0.09	0.10
Murray Bridge MFS	185_Monitor	22/01/2019	088-Monitor	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01

	PFAS							
	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Interim Target Decontamination Criteria (ITDC)			56				7	
PFAS NEMP 2018 Health Drinking Water			0.56				0.07	
PFAS NEMP 2018 Health Recreational Water			5.6				0.7	

Site ID	Location Code	Date	Field ID								
Murray Bridge MFS	185_Monitor	22/01/2019	185- Monitor	<0.01	0.01	<0.01	0.02	<0.01	0.03	0.01	0.01
Murray Bridge MFS	185_Water tank	22/01/2019	185 - Tank	<0.01	0.01	<0.01	0.01	<0.01	0.02	0.01	0.01
Murray Bridge MFS	185_WD_DS	22/01/2019	185-Drivers Delivery	<0.01	0.06	<0.01	0.12	0.03	0.22	0.06	0.06
Murray Bridge MFS	185_WD_PS	22/01/2019	185-Passenger Delivery	<0.01	0.06	<0.01	0.08	0.03	0.17	0.06	0.06
Ohalloran Hill MFS	1002_H_DS	21/01/2019	1002_H_D	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Ohalloran Hill MFS	1002_H_DS	21/01/2019	1002_WD_D	<0.01	<0.01	<0.01	0.01	0.01	0.03	<0.01	<0.01
Ohalloran Hill MFS	1002_H_PS	21/01/2019	1002_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ohalloran Hill MFS	1002_Monitor	21/01/2019	1002_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ohalloran Hill MFS	1002_Water tank	21/01/2019	1002_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ohalloran Hill MFS	1002_WD_PS	21/01/2019	1002_WD_P	<0.01	<0.01	<0.01	0.12	0.08	0.19	<0.01	<0.01
Paradise MFS	1305_H_DS	21/01/2019	1305_H_D	<0.01	<0.01	<0.01	0.05	0.07	0.11	<0.01	<0.01
Paradise MFS	1305_H_PS	21/01/2019	1305_H_P	<0.01	<0.01	<0.01	0.04	0.07	0.12	<0.01	<0.01
Paradise MFS	1305_Monitor	21/01/2019	1305_Monitor	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Paradise MFS	1305_Water tank	21/01/2019	1305_WT	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Paradise MFS	1305_WD_DS	21/01/2019	1305_WD_D	<0.01	<0.01	<0.01	0.08	0.05	0.13	<0.01	<0.01
Paradise MFS	1305_WD_PS	21/01/2019	1305_WD_P	<0.01	<0.01	<0.01	0.10	0.03	0.14	<0.01	<0.01
Peterborough MFS	97_H_DS	25/01/2019	097_hose R	<0.01	0.01	<0.01	0.13	0.04	0.18	0.01	0.01
Peterborough MFS	97_H_PS	25/01/2019	097_hose L	<0.01	<0.01	<0.01	0.20	0.08	0.28	<0.01	<0.01
Peterborough MFS	97_Monitor	25/01/2019	097_mointor	<0.01	<0.01	<0.01	0.01	0.01	0.02	<0.01	<0.01
Peterborough MFS	97_Water tank	25/01/2019	097_tank	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Peterborough MFS	97_WD_PS	25/01/2019	097_delivery L	<0.01	<0.01	<0.01	0.05	0.04	0.09	<0.01	<0.01
Peterborough MFS	97_WD_PS	25/01/2019	097_delivery R	<0.01	<0.01	<0.01	0.09	0.05	0.15	<0.01	<0.01
Port Adelaide MFS	1301_H_DS	22/01/2019	1301_H_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Adelaide MFS	1301_H_PS	22/01/2019	1301_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Adelaide MFS	1301_Monitor	22/01/2019	1301_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Adelaide MFS	1301_Water tank	22/01/2019	1301_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Adelaide MFS	1301_WD_DS	22/01/2019	1301_WD_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Adelaide MFS	1301_WD_PS	22/01/2019	1301_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Augusta MFS	172_H_DS	22/01/2019	172_hose R	<0.01	0.13	<0.01	0.02	0.02	0.18	0.13	0.13
Port Augusta MFS	172_H_PS	22/01/2019	172_hose L	0.01	0.12	<0.01	0.05	0.22	0.40	0.14	0.12
Port Augusta MFS	172_Monitor	22/01/2019	172_monitor	0.06	4.6	0.04	0.07	0.14	4.9	4.7	4.7
Port Augusta MFS	172_Water tank	22/01/2019	172_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Augusta MFS	172_WD_DS	22/01/2019	172_delivery R	<0.01	0.05	<0.01	<0.01	<0.01	0.05	0.05	0.05
Port Augusta MFS	172_WD_PS	22/01/2019	172_delivery L	<0.01	0.06	<0.01	<0.01	<0.01	0.06	0.06	0.06
Port Augusta MFS	179_H_DS	22/01/2019	179_hose	<0.01	0.04	<0.01	0.16	0.04	0.24	0.04	0.04
Port Augusta MFS	179_H_PS	22/01/2019	179_hose	<0.01	0.02	<0.01	0.32	0.07	0.41	0.02	0.02
Port Augusta MFS	179_Monitor	22/01/2019	179_monitor	<0.01	0.18	<0.01	0.02	0.02	0.21	0.18	0.18
Port Augusta MFS	179_Water tank	22/01/2019	179_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Augusta MFS	179_WD_DS	22/01/2019	179_delivery	<0.01	0.05	0.01	0.19	0.07	0.33	0.05	0.06
Port Augusta MFS	179_WD_PS	22/01/2019	179_delivery	<0.01	0.05	0.01	0.16	0.05	0.28	0.05	0.06
Port Augusta MFS	201_H_DS	22/01/2019	201_hose R	<0.01	0.25	<0.01	<0.01	<0.01	0.25	0.25	0.25
Port Augusta MFS	201_H_PS	22/01/2019	201_hose L	0.03	0.02	<0.01	<0.01	<0.01	0.05	0.05	0.02
Port Augusta MFS	201_Water tank	22/01/2019	201_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

	PFAS							
	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Interim Target Decontamination Criteria (ITDC)			56				7	
PFAS NEMP 2018 Health Drinking Water			0.56				0.07	
PFAS NEMP 2018 Health Recreational Water			5.6				0.7	

Site ID	Location Code	Date	Field ID								
Port Augusta MFS	201_WD_DS	22/01/2019	201_delivery R	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Augusta MFS	201_WD_PS	22/01/2019	201_delivery L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Augusta MFS	206_H_PS	22/01/2019	206_hose	0.01	0.13	<0.01	<0.01	<0.01	0.14	0.14	0.13
Port Augusta MFS	206_WD_PS	22/01/2019	206_delivery	0.01	0.16	<0.01	0.02	<0.01	0.19	0.17	0.16
Port Lincoln MFS	151_H_PS	23/01/2019	151_hose	0.12	0.28	0.02	<0.01	<0.01	0.42	0.40	0.31
Port Lincoln MFS	151_WD_PS	23/01/2019	151_delivery	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Lincoln MFS	175_H_DS	23/01/2019	175-hose R	<0.01	0.06	<0.01	<0.01	0.1	0.15	0.06	0.06
Port Lincoln MFS	175_H_PS	23/01/2019	175_hose L	<0.01	<0.01	<0.01	0.02	0.04	0.06	<0.01	<0.01
Port Lincoln MFS	175_Monitor	23/01/2019	175_monitor	<0.01	0.09	0.03	0.03	0.04	0.19	0.09	0.12
Port Lincoln MFS	175_Water tank	23/01/2019	175_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Lincoln MFS	175_WD_DS	23/01/2019	175_delivery R	<0.01	0.02	<0.01	0.06	0.02	0.10	0.02	0.02
Port Lincoln MFS	175_WD_PS	23/01/2019	175_delivery L	<0.01	0.02	<0.01	0.07	0.02	0.11	0.02	0.02
Port Lincoln MFS	212_H_PS	23/01/2019	212_hose	<0.01	0.06	<0.01	0.01	0.03	0.09	0.06	0.06
Port Lincoln MFS	212_WD_PS	23/01/2019	212_delivery	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.02	0.02
Port Lincoln MFS	1014_H_DS	23/01/2019	1014_hose R	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Port Lincoln MFS	1014_H_PS	23/01/2019	1014_hose L	<0.01	<0.01	<0.01	0.03	<0.01	0.03	<0.01	<0.01
Port Lincoln MFS	1014_Monitor	23/01/2019	1014_monitor	<0.01	<0.01	0.11	0.02	<0.01	0.13	<0.01	0.11
Port Lincoln MFS	1014_Water tank	23/01/2019	1014_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Lincoln MFS	1014_WD_DS	23/01/2019	1014_delivery R	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Port Lincoln MFS	1014_WD_PS	23/01/2019	1014_delivery L	<0.01	<0.01	<0.01	0.03	<0.01	0.03	<0.01	<0.01
Port Pirie MFS	196_H_DS	22/01/2019	196_hose R	<0.01	<0.01	0.01	0.81	0.12	0.94	<0.01	0.01
Port Pirie MFS	196_H_PS	22/01/2019	196_hose L	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Port Pirie MFS	196_Water tank	22/01/2019	196_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Pirie MFS	196_WD_DS	22/01/2019	196_delivery R	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Pirie MFS	196_WD_PS	22/01/2019	196_delivery L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Pirie MFS	205_H_PS	22/01/2019	205_hose	0.03	0.27	<0.01	<0.01	<0.01	0.30	0.30	0.27
Port Pirie MFS	205_Water tank	22/01/2019	205_tank	0.01	0.11	<0.01	<0.01	<0.01	0.12	0.12	0.11
Port Pirie MFS	205_WD_PS	22/01/2019	205_delivery	0.03	0.20	<0.01	<0.01	<0.01	0.23	0.23	0.20
Port Pirie MFS	980_H_DS	22/01/2019	980_hose R	0.01	0.05	0.02	0.18	0.08	0.35	0.06	0.07
Port Pirie MFS	980_H_PS	22/01/2019	980_hose L	<0.01	0.06	<0.01	0.15	0.21	0.43	0.06	0.06
Port Pirie MFS	980_Monitor	22/01/2019	980_monitor	<0.01	0.03	<0.01	0.02	<0.01	0.05	0.03	0.03
Port Pirie MFS	980_Water tank	22/01/2019	980_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Port Pirie MFS	980_WD_DS	22/01/2019	980_delivery R	<0.01	0.03	<0.01	0.03	0.01	0.08	0.03	0.03
Port Pirie MFS	980_WD_PS	22/01/2019	980_delivery L	<0.01	0.04	<0.01	0.03	0.01	0.09	0.04	0.04
Port Pirie MFS	1003_H_DS	22/01/2019	1003_hose R	<0.01	0.01	<0.01	0.08	0.07	0.16	0.01	0.01
Port Pirie MFS	1003_H_PS	22/01/2019	1003_hose L	<0.01	<0.01	<0.01	0.04	0.06	0.1	<0.01	<0.01
Port Pirie MFS	1003_Monitor	22/01/2019	1003_monitor	<0.01	<0.01	<0.01	0.02	0.02	0.03	<0.01	<0.01
Port Pirie MFS	1003_Water tank	22/01/2019	1003_tank	<0.01	<0.01	<0.01	0.01	0.02	0.03	<0.01	<0.01
Port Pirie MFS	1003_WD_DS	22/01/2019	1003_delivery R	<0.01	<0.01	<0.01	0.06	0.11	0.17	<0.01	<0.01
Port Pirie MFS	1003_WD_PS	22/01/2019	1003_delivery L	<0.01	<0.01	0.04	0.24	0.32	0.60	<0.01	0.04
Prospect MFS	81_H_DS	22/01/2019	081_H_D	<0.01	<0.01	<0.01	0.02	0.02	0.04	<0.01	<0.01
Prospect MFS	81_H_PS	22/01/2019	081_H_P	<0.01	<0.01	<0.01	0.11	0.04	0.15	<0.01	<0.01
Prospect MFS	81_Monitor	22/01/2019	081_Monitor	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01

				PFAS							
				Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Interim Target Decontamination Criteria (ITDC)						56				7	
PFAS NEMP 2018 Health Drinking Water						0.56				0.07	
PFAS NEMP 2018 Health Recreational Water						5.6				0.7	
Site ID	**Location Code**	**Date**	**Field ID**								
Prospect MFS	81_Water tank	22/01/2019	081_WT	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Prospect MFS	81_WD_DS	22/01/2019	081_WD_D	<0.01	<0.01	<0.01	0.03	<0.01	0.03	<0.01	<0.01
Prospect MFS	81_WD_PS	22/01/2019	081_WD_P	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Renmark MFS	140_Pump	23/01/2019	REN140-Pump	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Renmark MFS	140_WD_PS	23/01/2019	REN140-d	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Renmark MFS	165_H_PS	23/01/2019	REN165-RPS	0.38	2.0	0.23	0.38	0.14	3.1	2.4	2.2
Renmark MFS	165_Monitor	23/01/2019	REN165-M	1.1	10	1.2	5.1	0.66	18	11	11
Renmark MFS	165_Water tank	23/01/2019	REN165-T	0.04	0.40	0.03	0.12	0.04	0.64	0.44	0.43
Renmark MFS	165_WD_DS	23/01/2019	REN165-DDS	1.8	12	0.87	3.7	0.43	19	14	13
Renmark MFS	200_H_DS	23/01/2019	REN200-RDS	<0.01	0.05	<0.01	<0.01	0.02	0.07	0.05	0.05
Renmark MFS	200_H_PS	23/01/2019	REN200-RPS	<0.01	0.06	<0.01	0.03	0.01	0.11	0.06	0.06
Renmark MFS	200_WD_DS	23/01/2019	REN165-RDS	1.1	1.3	1.2	7.4	0.32	11	2.4	2.5
Renmark MFS	200_WD_DS	23/01/2019	REN200-DDS	<0.01	0.06	<0.01	<0.01	<0.01	0.06	0.06	0.06
Renmark MFS	200_WD_PS	23/01/2019	REN200-DPS	<0.01	0.07	<0.01	<0.01	<0.01	0.07	0.07	0.07
Renmark MFS	200_WD_PS	23/01/2019	REN208-DPS	<0.01	0.47	0.04	0.37	0.87	1.8	0.47	0.52
Renmark MFS	208_H_PS	23/01/2019	REN208-RPS	<0.01	0.20	<0.01	0.06	0.06	0.32	0.20	0.20
Renmark MFS	208_WD_PS	23/01/2019	REN165-DPS	0.84	6.2	0.77	3.4	0.47	12	7.0	7.0
Salisbury MFS	204_Deck branch	21/01/2019	204_DB_D	0.02	0.75	0.03	0.58	0.31	1.7	0.78	0.78
Salisbury MFS	204_Fixed hose reel	21/01/2019	204_FHR_P	0.03	0.73	<0.01	0.27	0.08	1.1	0.76	0.73
Salisbury MFS	204_WD_PS	21/01/2019	204_WD_P	0.04	1.1	0.04	0.83	0.53	2.6	1.2	1.2
Salisbury MFS	1006_H_DS	21/01/2019	1006_H_D	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
Salisbury MFS	1006_H_PS	21/01/2019	1006_H_P	<0.01	<0.01	<0.01	0.03	0.01	0.04	<0.01	<0.01
Salisbury MFS	1006_Monitor	21/01/2019	1006_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Salisbury MFS	1006_Monitor	21/01/2019	1704_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Salisbury MFS	1006_Water tank	21/01/2019	204_WT	0.06	0.96	0.02	0.26	0.1	1.4	1	0.98
Salisbury MFS	1006_Water tank	21/01/2019	1006_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Salisbury MFS	1006_WD_DS	21/01/2019	1006_WD_D	<0.01	<0.01	<0.01	0.03	<0.01	0.03	<0.01	<0.01
Salisbury MFS	1006_WD_DS	21/01/2019	1704_WD_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Salisbury MFS	1006_WD_PS	21/01/2019	1006_WD_P	<0.01	<0.01	<0.01	0.02	0.01	0.03	<0.01	<0.01
Salisbury MFS	1006_WD_PS	21/01/2019	1704_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Salisbury MFS	1704_H_DS	21/01/2019	1704_H_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Salisbury MFS	1704_H_PS	21/01/2019	1704_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Salisbury MFS	1704_Water tank	21/01/2019	1704_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Seaford MFS	1001_H_DS	21/01/2019	1001_H_D	<0.01	<0.01	<0.01	0.07	0.01	0.08	<0.01	<0.01
Seaford MFS	1001_H_PS	21/01/2019	1001_H_P	<0.01	<0.01	<0.01	0.03	0.03	0.07	<0.01	<0.01
Seaford MFS	1001_Monitor	21/01/2019	1001_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Seaford MFS	1001_Water tank	21/01/2019	1001_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Seaford MFS	1001_WD_DS	21/01/2019	1001_WD_D	<0.01	<0.01	<0.01	0.04	<0.01	0.04	<0.01	<0.01
Seaford MFS	1001_WD_PS	21/01/2019	1001_WD_P	<0.01	<0.01	<0.01	0.03	<0.01	0.03	<0.01	<0.01
St Marys MFS	1005_Monitor	23/01/2019	1005_M	<0.01	<0.01	<0.01	0.01	0.02	0.03	<0.01	<0.01
St Marys MFS	1005_Water tank	23/01/2019	1005_WT	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
St Marys MFS	1005_WD_DS	23/01/2019	1005_WD_D	<0.01	<0.01	<0.01	0.04	0.02	0.06	<0.01	<0.01
St Marys MFS	1005_WD_PS	23/01/2019	1005_WD_P	0.01	0.03	<0.01	1.9	<0.01	2.0	0.04	0.03

				PFAS							
				Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Interim Target Decontamination Criteria (ITDC)						56				7	
PFAS NEMP 2018 Health Drinking Water						0.56				0.07	
PFAS NEMP 2018 Health Recreational Water						5.6				0.7	
Site ID	**Location Code**	**Date**	**Field ID**								
St Marys MFS	1706_H_DS	23/01/2019	1706_H_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
St Marys MFS	1706_H_PS	23/01/2019	1706_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
St Marys MFS	1706_Monitor	23/01/2019	1706_M	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
St Marys MFS	1706_Water tank	23/01/2019	1706_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
St Marys MFS	1706_WD_DS	23/01/2019	1706_WD_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
St Marys MFS	1706_WD_PS	23/01/2019	1706_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tanunda MFS	631_H_DS	22/01/2019	Tan631-RDS	<0.01	<0.01	<0.01	0.09	0.05	0.14	<0.01	<0.01
Tanunda MFS	631_H_PS	22/01/2019	Tan631-RPS	0.01	0.12	0.01	0.14	0.11	0.39	0.13	0.13
Tanunda MFS	631_Monitor	22/01/2019	Tan631-M	<0.01	0.02	<0.01	0.04	0.05	0.10	0.02	0.02
Tanunda MFS	631_Water tank	22/01/2019	Tan631-T	<0.01	<0.01	<0.01	0.02	0.05	0.07	<0.01	<0.01
Tanunda MFS	631_WD_DS	22/01/2019	Tan631-DDS	0.03	0.36	0.03	0.11	0.07	0.60	0.40	0.39
Tanunda MFS	631_WD_PS	22/01/2019	Tan631-DPS	0.02	0.28	0.02	0.10	0.07	0.48	0.30	0.30
Tanunda MFS	639_H_DS	22/01/2019	Tan639-RDS	<0.01	0.1	<0.01	0.02	0.02	0.13	0.1	0.1
Tanunda MFS	639_H_PS	22/01/2019	Tan639-RPS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tanunda MFS	639_WD_DS	22/01/2019	Tan639-DDS	<0.01	<0.01	<0.01	0.01	0.01	0.03	<0.01	<0.01
Tanunda MFS	639_WD_PS	22/01/2019	Tan639-DPS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Victor Harbor MFS	87_H_DS	23/01/2019	087_H_D	0.67	6.1	0.09	0.26	0.1	7.2	6.8	6.2
Victor Harbor MFS	87_H_DS	23/01/2019	187_H_D	<0.01	0.04	0.02	0.37	0.11	0.53	0.04	0.05
Victor Harbor MFS	87_H_PS	23/01/2019	087_H_P	<0.01	<0.01	<0.01	0.04	0.04	0.08	<0.01	<0.01
Victor Harbor MFS	87_H_PS	23/01/2019	187_H_P	<0.01	0.08	0.03	0.50	0.22	0.83	0.08	0.11
Victor Harbor MFS	87_Monitor	23/01/2019	087_Monitor	<0.01	<0.01	<0.01	0.34	0.07	0.42	<0.01	<0.01
Victor Harbor MFS	87_Water tank	23/01/2019	087_WT	<0.01	<0.01	<0.01	0.34	0.09	0.43	<0.01	<0.01
Victor Harbor MFS	87_WD_DS	23/01/2019	087_WD_D	<0.01	<0.01	<0.01	0.28	0.09	0.37	<0.01	<0.01
Victor Harbor MFS	87_WD_PS	23/01/2019	087_WD_P	<0.01	<0.01	<0.01	0.23	0.05	0.28	<0.01	<0.01
Victor Harbor MFS	187_Monitor	23/01/2019	187_Monitor	<0.01	<0.01	<0.01	0.09	0.05	0.14	<0.01	<0.01
Victor Harbor MFS	187_Water tank	23/01/2019	187_WT	<0.01	<0.01	<0.01	0.06	0.03	0.09	<0.01	<0.01
Victor Harbor MFS	187_WD_DS	23/01/2019	187_WD_D	<0.01	0.05	0.03	0.62	0.16	0.86	0.05	0.08
Victor Harbor MFS	187_WD_PS	23/01/2019	187_WD_P	<0.01	0.05	0.04	0.76	0.22	1.1	0.05	0.09
Victor Harbor MFS	1012_H_DS	23/01/2019	1012_H_D	<0.01	<0.01	0.05	2.0	0.41	2.4	<0.01	0.05
Victor Harbor MFS	1012_H_PS	23/01/2019	1012_H_P	<0.01	0.04	0.04	2.1	0.44	2.6	0.04	0.08
Victor Harbor MFS	1012_Monitor	23/01/2019	1012_Monitor	<0.01	<0.01	0.01	0.46	0.08	0.55	<0.01	0.01
Victor Harbor MFS	1012_Water tank	23/01/2019	1012_WT	<0.01	<0.01	0.03	1.2	0.1	1.4	<0.01	0.03
Victor Harbor MFS	1012_WD_DS	23/01/2019	1012_WD_D	0.01	<0.01	0.02	0.85	0.28	1.2	0.01	0.02
Victor Harbor MFS	1012_WD_PS	23/01/2019	1012_WD_P	<0.01	<0.01	0.02	0.68	0.23	0.93	<0.01	0.02
Wallaroo MFS	191_H_DS	21/01/2019	191_hose R	0.01	0.16	0.01	0.03	0.02	0.23	0.17	0.17
Wallaroo MFS	191_H_PS	21/01/2019	191_hose L	0.01	0.21	0.01	<0.01	<0.01	0.23	0.22	0.22
Wallaroo MFS	191_Monitor	21/01/2019	191_monitor	<0.01	0.09	<0.01	<0.01	<0.01	0.09	0.09	0.09
Wallaroo MFS	191_Water tank	21/01/2019	191_tank	<0.01	0.04	<0.01	<0.01	<0.01	0.04	0.04	0.04
Wallaroo MFS	191_WD_DS	21/01/2019	191_delivery R	0.04	0.76	0.03	<0.01	<0.01	0.83	0.80	0.79
Wallaroo MFS	191_WD_PS	21/01/2019	191_delivery L	0.09	1.8	0.06	0.02	0.01	2.0	1.9	1.9
Whyalla MFS	176_Water tank	23/01/2019	176_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Whyalla MFS	176_WD_DS	23/01/2019	176_delivery R	<0.01	0.12	<0.01	<0.01	<0.01	0.12	0.12	0.12

				PFAS							
				Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Interim Target Decontamination Criteria (ITDC)						56				7	
PFAS NEMP 2018 Health Drinking Water						0.56				0.07	
PFAS NEMP 2018 Health Recreational Water						5.6				0.7	
Site ID	**Location Code**	**Date**	**Field ID**								
Whyalla MFS	176_WD_PS	23/01/2019	176_delivery L	<0.01	0.13	<0.01	<0.01	<0.01	0.13	0.13	0.13
Whyalla MFS	186_Monitor	23/01/2019	186_monitor	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.02	0.02
Whyalla MFS	186_Water tank	23/01/2019	186_tank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Whyalla MFS	186_WD_DS	23/01/2019	186_delivery R	<0.01	0.06	<0.01	<0.01	0.01	0.07	0.06	0.06
Whyalla MFS	186_WD_PS	23/01/2019	186_delivery_L	<0.01	0.04	<0.01	<0.01	<0.01	0.04	0.04	0.04
Whyalla MFS	203_H_DS	23/01/2019	186_hose R	<0.01	0.02	0.01	0.45	0.15	0.63	0.02	0.03
Whyalla MFS	203_H_DS	23/01/2019	203_hose R	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Whyalla MFS	203_H_PS	23/01/2019	186_hose L	<0.01	0.03	<0.01	<0.01	<0.01	0.03	0.03	0.03
Whyalla MFS	203_H_PS	23/01/2019	203_hose L	<0.01	0.02	<0.01	<0.01	<0.01	0.02	0.02	0.02
Whyalla MFS	203_Water tank	23/01/2019	203_tank	0.05	0.78	0.01	<0.01	<0.01	0.84	0.83	0.79
Whyalla MFS	203_WD_DS	23/01/2019	203_delivery R	<0.01	0.02	<0.01	0.01	<0.01	0.04	0.02	0.02
Whyalla MFS	203_WD_PS	23/01/2019	203_delivery L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Whyalla MFS	207_H_PS	23/01/2019	207_hose	<0.01	0.07	<0.01	<0.01	<0.01	0.07	0.07	0.07
Whyalla MFS	207_WD_PS	23/01/2019	207_delivery	<0.01	0.04	<0.01	<0.01	<0.01	0.04	0.04	0.04
Whyalla MFS	1501_H_DS	23/01/2019	1501_hose R	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Whyalla MFS	1501_H_PS	23/01/2019	1501_hose L	<0.01	<0.01	<0.01	0.04	<0.01	0.04	<0.01	<0.01
Whyalla MFS	1501_WD_PS	23/01/2019	1501_delivery L	<0.01	<0.01	<0.01	0.07	0.01	0.08	<0.01	<0.01
Whyalla MFS	1501_WD_PS	23/01/2019	1501_delivery R	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1008_H_DS	22/01/2019	1008_H_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1008_H_PS	22/01/2019	1008_H_P	<0.01	0.03	<0.01	0.05	0.03	0.1	0.03	0.03
Woodville MFS	1008_Monitor	22/01/2019	1008_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1008_Water tank	22/01/2019	1008_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1008_WD_DS	22/01/2019	1008_WD_D	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01
Woodville MFS	1008_WD_PS	22/01/2019	1008_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1707_H_DS	22/01/2019	1707_H_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1707_H_PS	22/01/2019	1707_H_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1707_Monitor	22/01/2019	1707_Monitor	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1707_Water tank	22/01/2019	1707_WT	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1707_WD_DS	22/01/2019	1707_WD_D	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Woodville MFS	1707_WD_PS	22/01/2019	1707_WD_P	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Environmental Standards
MFB Operational Criteria
HEPA, January 2018, PFAS NEMP 2018 Health Drinking Water
HEPA, January 2018, PFAS NEMP 2018 Health Recreational Water

						Inorganics	PFAS								
						Moisture Content (%)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
						%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
PFAS NEMP 2018 Health Industrial/Commercial									50				20	
PFAS NEMP 2018 Health Residential with minimal opportunities for soil access									20				2	
Site ID	**Lab Name**	**Date**	**Field ID**	**Sample Type**	**Matrix Type**									
Angle Park MFS	ENVIROLAB	22/01/2019	Angle_1	Normal	soil	3.4	0.013	0.057	0.0024	0.0008	0.0005	0.074	0.07	0.059
Angle Park MFS	ENVIROLAB	22/01/2019	Angle_2	Normal	soil	1.3	0.0021	0.055	0.0007	0.0069	0.0055	0.07	0.057	0.056
Angle Park Training Centre	ENVIROLAB	25/01/2019	TRAIN_1	Normal	soil	0.4	<0.0001	0.0067	0.0004	0.0002	0.0004	0.0078	0.0067	0.0071
Angle Park Training Centre	ENVIROLAB	25/01/2019	TRAIN_2	Normal	soil	0.1	0.016	0.21	0.0077	0.02	0.26	0.51	0.23	0.22
Berri MFS	ENVIROLAB	23/01/2019	Ber-1	Normal	soil		0.0005	0.0063	0.0004	<0.0001	<0.0001	0.0073	0.0069	0.0068
Berri MFS	ENVIROLAB	23/01/2019	Ber-2	Normal	soil		0.011	0.065	0.014	0.0005	0.0005	0.091	0.076	0.079
Beulah Park MFS	ENVIROLAB	22/01/2019	Beulah_1	Normal	soil	6.9	<0.0001	0.001	<0.0001	<0.0001	<0.0001	0.001	0.001	0.001
Beulah Park MFS	ENVIROLAB	22/01/2019	Beulah_2	Normal	soil	6.6	0.0003	0.0072	0.0002	<0.0001	<0.0001	0.0077	0.0075	0.0074
Brooklyn Park MFS	ENVIROLAB	21/02/2019	BROOKLYN_1	Normal	soil	7.7	0.0019	0.042	0.0004	<0.0001	<0.0001	0.044	0.044	0.042
Brooklyn Park MFS	ENVIROLAB	22/02/2019	BROOKLYN_2	Normal	soil	8.9	0.012	0.093	0.0010	<0.0001	<0.0001	0.11	0.1	0.094
Camden Park MFS	ENVIROLAB	23/01/2019	CAMDEN_1	Normal	soil	6.0	0.0088	0.13	0.0007	<0.0001	<0.0001	0.14	0.14	0.13
Camden Park MFS	ENVIROLAB	23/01/2019	CAMDEN_2	Normal	soil	5.8	0.05	1	0.0057	<0.0001	<0.0001	1.1	1.1	1
Christie Downs MFS	ENVIROLAB	21/01/2019	Christie_1	Normal	soil	5.3	0.0060	0.36	0.0030	0.0005	0.011	0.38	0.37	0.36
Christie Downs MFS	ENVIROLAB	21/01/2019	Christie_2	Normal	soil	12	0.0057	0.11	0.0019	0.0008	0.0043	0.12	0.12	0.11
Elizabeth MFS	ENVIROLAB	22/01/2019	Elizabeth_1	Normal	soil	0.4	0.0013	0.034	0.0006	0.001	0.0056	0.043	0.035	0.035
Elizabeth MFS	ENVIROLAB	22/01/2019	Elizabeth_2	Normal	soil	9.7	0.0002	0.03	0.0008	0.0009	0.0013	0.033	0.03	0.031
Gawler MFS	ENVIROLAB	21/01/2019	Gawler_1	Normal	soil	16	<0.0001	0.0034	<0.0001	<0.0001	<0.0001	0.0034	0.0034	0.0034
Gawler MFS	ENVIROLAB	21/01/2019	Gawler_2	Normal	soil	1.7	0.0006	0.012	0.0003	<0.0001	<0.0001	0.013	0.013	0.012
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_1	Normal	soil	12	<0.0001	0.0011	<0.0001	<0.0001	<0.0001	0.0011	0.0011	0.0011
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_2	Normal	soil	36	0.0001	0.0032	0.001	<0.0002	<0.0002	0.0043	0.0033	0.0042
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_3	Normal	soil	13	0.0003	0.0059	<0.0001	<0.0001	<0.0001	0.0062	0.0062	0.0059
Golden Grove MFS	ENVIROLAB	21/01/2019	Golden Grove_1	Normal	soil	3.9	<0.0001	0.0006	<0.0001	<0.0001	<0.0001	0.0006	0.0006	0.0006
Golden Grove MFS	ENVIROLAB	21/01/2019	Golden Grove_2	Normal	soil	0.4	<0.0001	0.0012	<0.0001	<0.0001	<0.0001	0.0012	0.0012	0.0012
Kapunda MFS	ENVIROLAB	23/01/2019	kup-1	Normal	soil		0.0023	0.18	0.0005	0.0001	<0.0001	0.18	0.18	0.18
Kapunda MFS	ENVIROLAB	23/01/2019	kup-2	Normal	soil		0.0010	0.075	0.0011	0.0005	0.0042	0.082	0.076	0.076
Loxton MFS	ENVIROLAB	23/01/2019	Lox-1	Normal	soil		0.0012	0.023	0.0001	0.0001	<0.0001	0.025	0.025	0.024
Loxton MFS	ENVIROLAB	23/01/2019	Lox-2	Normal	soil		0.0001	0.0008	<0.0001	<0.0001	<0.0001	0.0009	0.0009	0.0008
Moonta MFS	ENVIROLAB		Moonta_1	Normal	soil	0.7	0.0006	0.01	0.0001	<0.0001	<0.0001	0.011	0.011	0.01
Moonta MFS	ENVIROLAB		Moonta_2	Normal	soil	14	0.0035	0.036	0.0005	<0.0001	<0.0001	0.04	0.04	0.037
Mount Gambier MFS	ENVIROLAB	23/01/2019	Mt Gambier-1	Normal	soil		0.0049	0.043	0.0030	0.0031	0.0027	0.057	0.048	0.046
Mount Gambier MFS	ENVIROLAB	23/01/2019	Mt Gambier-2	Normal	soil		0.011	0.15	0.0034	0.0036	0.0023	0.17	0.16	0.15
Murray Bridge MFS	ENVIROLAB	22/01/2019	MBRIDGE-1	Normal	soil	2.8	0.0021	0.057	0.0006	0.0002	0.0005	0.06	0.059	0.058
Murray Bridge MFS	ENVIROLAB	22/01/2019	MBRIDGE-3	Normal	soil	8.0	0.0093	0.1	0.0018	0.0027	0.0012	0.12	0.11	0.1
Oakden MFS	ENVIROLAB	18/04/2019	Soil_1_0-0.2	Normal	soil	13	0.013	0.78	0.0022	0.0002	<0.0001	0.8	0.79	0.78
Oakden MFS	ENVIROLAB	18/04/2019	Soil_1_0.3-0.5	Normal	soil	11	0.34	0.2	0.011	<0.0001	<0.0001	0.55	0.54	0.21
Oakden MFS	ENVIROLAB	18/04/2019	Soil_1_0.8-1.0	Normal	soil	18	0.16	0.33	0.0052	<0.0001	<0.0001	0.5	0.49	0.34

						Inorganics	PFAS								
						Moisture Content (%)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
						%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
PFAS NEMP 2018 Health Industrial/Commercial									50				20	
PFAS NEMP 2018 Health Residential with minimal opportunities for soil access									20				2	
Site ID	**Lab Name**	**Date**	**Field ID**	**Sample Type**	**Matrix Type**									
Oakden MFS	ENVIROLAB	18/04/2019	Soil_2_0-0.2	Normal	soil	16	0.015	0.28	0.0015	0.0001	<0.0002	0.3	0.3	0.28
Oakden MFS	ENVIROLAB	18/04/2019	Soil_2_0.3-0.5	Normal	soil	16	0.02	1.1	0.0019	<0.0001	<0.0001	1.1	1.1	1.1
Oakden MFS	ENVIROLAB	18/04/2019	Soil_2_0.8-1.0	Normal	soil	17	0.044	1.4	0.0039	<0.0001	<0.0001	1.4	1.4	1.4
Oakden MFS	ENVIROLAB	18/04/2019	Soil_3_0-0.2	Normal	soil	13	0.046	0.66	0.0061	0.0002	<0.0002	0.71	0.71	0.67
Oakden MFS	ENVIROLAB	18/04/2019	Soil_3_0.3-0.5	Normal	soil	12	0.043	0.55	0.0051	<0.0001	<0.0001	0.6	0.59	0.56
Oakden MFS	ENVIROLAB	18/04/2019	Soil_3_0.8-1.0	Normal	soil	11	0.041	0.46	0.0048	<0.0001	<0.0002	0.51	0.5	0.46
Oakden MFS	ENVIROLAB	18/04/2019	Soil_4_0-0.2	Normal	soil	8.1	0.0064	0.079	0.0011	<0.0001	<0.0001	0.086	0.085	0.08
Oakden MFS	ENVIROLAB	18/04/2019	Soil_4_0.3-0.5	Normal	soil	12	0.016	0.027	0.0009	<0.0001	<0.0001	0.045	0.044	0.028
Oakden MFS	ENVIROLAB	18/04/2019	Soil_5_0-0.2	Normal	soil	12	0.058	0.24	0.0034	0.0002	<0.0001	0.3	0.3	0.24
Ohalloran Hill MFS	ENVIROLAB	21/01/2019	OHalloran_1	Normal	soil	8.1	0.028	0.15	0.0014	<0.0001	<0.0001	0.18	0.18	0.15
Ohalloran Hill MFS	ENVIROLAB	21/01/2019	OHalloran_2	Normal	soil	6.7	0.0005	0.0081	0.0003	<0.0001	0.0002	0.0091	0.0086	0.0084
Paradise MFS	ENVIROLAB	21/01/2019	Paradise_1	Normal	soil	2.0	<0.0001	0.0005	0.0008	<0.0002	<0.0002	0.0012	0.0005	0.0012
Paradise MFS	ENVIROLAB	21/01/2019	Paradise_2	Normal	soil	3.4	<0.0001	0.0004	0.0068	0.0045	0.0091	0.021	0.0004	0.0072
Peterborough MFS	ENVIROLAB		Peterborough_1	Normal	soil	9.5	0.0026	0.34	0.0003	<0.0001	<0.0001	0.34	0.34	0.34
Peterborough MFS	ENVIROLAB		Peterborough_2	Normal	soil	5.7	0.0086	0.16	0.001	0.0004	0.0001	0.17	0.17	0.16
Port Adelaide MFS	ENVIROLAB	22/01/2019	PortAdelaide_1	Normal	soil	5.3	0.011	0.087	0.0008	<0.0001	<0.0001	0.099	0.098	0.088
Port Adelaide MFS	ENVIROLAB	22/01/2019	PortAdelaide_2	Normal	soil	8.6	0.015	0.49	0.012	0.059	0.2	0.78	0.51	0.5
Port Augusta MFS	ENVIROLAB		Port Augusta_1	Normal	soil	0.7	0.0018	0.08	0.0015	0.049	0.047	0.18	0.082	0.081
Port Augusta MFS	ENVIROLAB		Port Augusta_2	Normal	soil	35	0.023	0.49	0.0071	0.09	0.26	0.87	0.51	0.5
Port Lincoln MFS	ENVIROLAB		Port Lincoln_1	Normal	soil	6.2	0.0011	0.017	<0.002	<0.002	<0.002	0.019	0.019	0.017
Port Lincoln MFS	ENVIROLAB		Port Lincoln_2	Normal	soil	3.2	<0.0001	0.0003	<0.0001	<0.0001	<0.0001	0.0003	0.0003	0.0003
Port Pirie MFS	ENVIROLAB		Port Pirie_3	Normal	soil	0.4	0.001	0.055	0.0002	<0.0001	0.0002	0.056	0.056	0.055
Port Pirie MFS	ENVIROLAB		Port Pirie_4	Normal	soil	3.5	0.0022	0.062	0.0002	<0.0001	<0.0001	0.064	0.064	0.062
Prospect MFS	ENVIROLAB	22/01/2019	Prospect_1	Normal	soil	6.9	0.0014	0.0080	0.001	0.0007	0.0014	0.012	0.0094	0.0090
Prospect MFS	ENVIROLAB	22/01/2019	Prospect_2	Normal	soil	4.2	<0.0001	0.0007	0.0006	0.0007	0.0005	0.0026	0.0007	0.0013
Renmark MFS	ENVIROLAB	23/01/2019	Ren-1	Normal	soil		0.0020	0.026	0.0011	0.0006	0.0003	0.03	0.028	0.027
Renmark MFS	ENVIROLAB	23/01/2019	Ren-2	Normal	soil		0.0001	0.0011	0.0001	<0.0001	<0.0001	0.0014	0.0012	0.0013
Salisbury MFS	ENVIROLAB	21/01/2019	Salisbury_1	Normal	soil	9.4	<0.0001	0.0009	0.0002	<0.0001	<0.0001	0.0011	0.0009	0.0011
Salisbury MFS	ENVIROLAB	21/01/2019	Salisbury_2	Normal	soil	8	<0.0001	0.0006	<0.0001	<0.0001	<0.0001	0.0006	0.0006	0.0006
Seaford MFS	ENVIROLAB	21/01/2019	Seaford_1	Normal	soil	8.8	<0.0001	0.0008	0.0003	<0.0001	<0.0001	0.0011	0.0008	0.0011
Seaford MFS	ENVIROLAB	21/01/2019	Seaford_2	Normal	soil	5.8	<0.0001	0.0002	0.0001	<0.0001	<0.0001	0.0003	0.0002	0.0003
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_1	Normal	soil	6.4	0.02	0.2	0.0034	0.0027	0.0024	0.23	0.22	0.2
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_2	Normal	soil	11	0.0012	0.043	0.0012	0.0006	0.0009	0.047	0.044	0.044
Tanunda MFS	ENVIROLAB	23/01/2019	Tan-1	Normal	soil		<0.0001	0.0017	0.0002	<0.0001	<0.0001	0.0019	0.0017	0.0019
Wallaroo MFS	ENVIROLAB		Wallaroo_1	Normal	soil	2.6	0.0016	0.015	0.0003	<0.0001	<0.0001	0.017	0.017	0.015
Wallaroo MFS	ENVIROLAB		Wallaroo_2	Normal	soil	8.1	<0.0001	0.0004	<0.0001	<0.0001	<0.0001	0.0004	0.0004	0.0004

						Inorganics	PFAS							
						Moisture Content (%)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
						%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
PFAS NEMP 2018 Health Industrial/Commercial									50				20	
PFAS NEMP 2018 Health Residential with minimal opportunities for soil access									20				2	
Site ID	**Lab Name**	**Date**	**Field ID**	**Sample Type**	**Matrix Type**									
Whyalla MFS	ENVIROLAB		Whyalla_1	Normal	soil	40	0.0045	0.09	<0.001	0.0021	0.0021	0.099	0.094	0.09
Whyalla MFS	ENVIROLAB		Whyalla_2	Normal	soil	34	0.0033	0.03	0.0017	0.0007	0.0021	0.038	0.033	0.032
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_1	Normal	soil	8.5	0.041	0.21	0.0040	<0.0001	<0.0001	0.25	0.25	0.21
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_2	Normal	soil	7.4	0.0003	0.01	0.0002	<0.0001	<0.0001	0.011	0.01	0.01

Environmental Standards
HEPA, January 2018, PFAS NEMP 2018 Health Industrial/Commercial
HEPA, January 2018, PFAS NEMP 2018 Health Residential with minimal opportunities for soil access

	Perfluorohexane sulfonate	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001
FSANZ 2017 Fruit (all) Trigger Point									
FSANZ 2017 Poultry Eggs Trigger Point									
FSANZ 2017 Vegetables (all) Trigger Point									

Site ID	Lab Name	Date	Field ID	Sample Type	Matrix Type									
Adelaide MFS	ENVIROLAB	29/01/2019	ADL_TREE_1	Normal	Biota	0.008				0.015				
Adelaide MFS	ENVIROLAB	29/01/2019	ROSEMARY_ADL	Normal	Biota	0.018				0.11				
Beulah Park MFS	ENVIROLAB	22/01/2019	Beulah_Lemon	Normal	Biota	<0.001				<0.001				
Brooklyn Park MFS	ENVIROLAB	25/01/2019	BROOKLYN_NECTARINE	Normal	Biota	<0.001				<0.001				
Brooklyn Park MFS	ENVIROLAB	23/09/2019	BROOKLYN_GRAPE	Normal	Biota	<0.001				0.001				
Christie Downs MFS	ENVIROLAB	21/01/2019	Christie_Apricot	Normal	Biota	<0.001				<0.001				
Christie Downs MFS	ENVIROLAB	21/01/2019	Christie_Lime	Normal	Biota	0.001				<0.001				
Elizabeth MFS	ENVIROLAB	22/01/2019	Elizabeth_Lime	Normal	Biota	<0.001				<0.001				
Golden Grove MFS	ENVIROLAB	21/01/2019	Golden Grove_Lime	Normal	Biota	<0.001				<0.001				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- EGGS white	Normal	Biota	<0.005				<0.005				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- EGGS yolk	Normal	Biota	0.13				0.79				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- PARSLEY	Normal	Biota	<0.001				0.002				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- PUMPK	Normal	Biota	<0.001				<0.001				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- ROSEMERRY	Normal	Biota	<0.01				<0.01				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- SILVERBEAT	Normal	Biota	0.002				0.003				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-SQUASH	Normal	Biota	<0.001				<0.001				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- TOMATO	Normal	Biota	<0.001				<0.001				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-TREE 1	Normal	Biota	<0.001				<0.001				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-TREE 2	Normal	Biota	<0.001				<0.001				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-TREE 3	Normal	Biota	0.001				0.005				
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- ZHUKINI	Normal	Biota	<0.001				<0.001				
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_CITRUS	Normal	Biota	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_TOMATO	Normal	Biota	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001
Paradise MFS	ENVIROLAB	25/01/2019	Paradise_apricot	Normal	Biota	<0.001				<0.001				
Port Adelaide MFS	ENVIROLAB	22/01/2019	PortAdelaide_EGGS-Whites	Normal	Biota	<0.005				<0.005				
Port Adelaide MFS	ENVIROLAB	22/01/2019	PortAdelaide_EGGS-Yolks	Normal	Biota	0.092				0.42				
Prospect MFS	ENVIROLAB	22/01/2019	Prospect_Lemon	Normal	Biota	<0.001				<0.001				
Prospect MFS	ENVIROLAB	22/01/2019	Prospect_Lime	Normal	Biota	<0.001				<0.001				
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_LEMON	Normal	Biota	0.003				0.002				
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_NECTARINE	Normal	Biota	<0.001				<0.001				
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_ORANGE	Normal	Biota	0.002				<0.001				
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Apple	Normal	Biota	<0.001				<0.001				
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Grapes	Normal	Biota	<0.001				<0.001				
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Lime	Normal	Biota	<0.001				<0.001				
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Peach	Normal	Biota	<0.001				<0.001				
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Tomatoes	Normal	Biota	<0.001				<0.001				

				PFAS										
				Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005
FSANZ 2017 Fruit (all) Trigger Point					0.0051									
FSANZ 2017 Poultry Eggs Trigger Point					0.085									
FSANZ 2017 Vegetables (all) Trigger Point					0.0088									
Site ID	**Lab Name**	**Date**	**Field ID**											
Adelaide MFS	ENVIROLAB	29/01/2019	ADL_TREE_1		<0.001									
Adelaide MFS	ENVIROLAB	29/01/2019	ROSEMARY_ADL		<0.01									
Beulah Park MFS	ENVIROLAB	22/01/2019	Beulah_Lemon		<0.001									
Brooklyn Park MFS	ENVIROLAB	25/01/2019	BROOKLYN_NECTARINE		<0.001									
Brooklyn Park MFS	ENVIROLAB	23/09/2019	BROOKLYN_GRAPE		<0.001									
Christie Downs MFS	ENVIROLAB	21/01/2019	Christie_Apricot		<0.001									
Christie Downs MFS	ENVIROLAB	21/01/2019	Christie_Lime		<0.001									
Elizabeth MFS	ENVIROLAB	22/01/2019	Elizabeth_Lime		<0.001									
Golden Grove MFS	ENVIROLAB	21/01/2019	Golden Grove_Lime		<0.001									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- EGGS white		<0.005									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- EGGS yolk		<0.005									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- PARSLEY		<0.001									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- PUMPK		<0.001									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- ROSEMERRY		<0.01									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- SILVERBEAT		<0.001									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-SQUASH		<0.001									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- TOMATO		<0.001									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-TREE 1		<0.001									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-TREE 2		<0.001									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-TREE 3		<0.001									
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- ZHUKINI		<0.001									
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_CITRUS	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_TOMATO	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005
Paradise MFS	ENVIROLAB	25/01/2019	Paradise_apricot		<0.001									
Port Adelaide MFS	ENVIROLAB	22/01/2019	PortAdelaide_EGGS-Whites		<0.005									
Port Adelaide MFS	ENVIROLAB	22/01/2019	PortAdelaide_EGGS-Yolks		0.0076									
Prospect MFS	ENVIROLAB	22/01/2019	Prospect_Lemon		<0.001									
Prospect MFS	ENVIROLAB	22/01/2019	Prospect_Lime		<0.001									
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_LEMON		<0.001									
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_NECTARINE		<0.001									
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_ORANGE		<0.001									
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Apple		<0.001									
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Grapes		<0.001									
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Lime		<0.001									
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Peach		<0.001									
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Tomatoes		<0.001									

	N-Methyl perfluorooctane sulfonamidoethanol (MEFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*
	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	0.05	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
FSANZ 2017 Fruit (all) Trigger Point										0.0006	
FSANZ 2017 Poultry Eggs Trigger Point										0.011	
FSANZ 2017 Vegetables (all) Trigger Point										0.0011	

Site ID	Lab Name	Date	Field ID											
Adelaide MFS	ENVIROLAB	29/01/2019	ADL_TREE_1						<0.001	<0.001			0.023	0.015
Adelaide MFS	ENVIROLAB	29/01/2019	ROSEMARY_ADL						<0.01	<0.01			0.13	0.11
Beulah Park MFS	ENVIROLAB	22/01/2019	Beulah_Lemon						<0.001	<0.001			<0.001	<0.001
Brooklyn Park MFS	ENVIROLAB	25/01/2019	BROOKLYN_NECTARINE						<0.001	<0.001			<0.001	<0.001
Brooklyn Park MFS	ENVIROLAB	23/09/2019	BROOKLYN_GRAPE						<0.001	<0.001			0.001	0.001
Christie Downs MFS	ENVIROLAB	21/01/2019	Christie_Apricot						<0.001	<0.001			<0.001	<0.001
Christie Downs MFS	ENVIROLAB	21/01/2019	Christie_Lime						<0.001	<0.001			0.001	<0.001
Elizabeth MFS	ENVIROLAB	22/01/2019	Elizabeth_Lime						<0.001	<0.001			<0.001	<0.001
Golden Grove MFS	ENVIROLAB	21/01/2019	Golden Grove_Lime						<0.001	<0.001			<0.001	<0.001
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- EGGS white						<0.005	<0.005			<0.001	<0.001
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- EGGS yolk						<0.005	0.007			0.92	0.79
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- PARSLEY						<0.001	<0.001			0.002	0.002
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- PUMPK						<0.001	<0.001			<0.001	<0.001
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- ROSEMERRY						<0.01	<0.01			<0.01	<0.01
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- SILVERBEAT						<0.001	<0.001			0.005	0.003
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-SQUASH						<0.001	<0.001			<0.001	<0.001
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- TOMATO						<0.001	<0.001			<0.001	<0.001
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-TREE 1						<0.001	<0.001			<0.001	<0.001
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-TREE 2						<0.001	<0.001			<0.001	<0.001
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG-TREE 3						<0.001	<0.001			0.006	0.005
Mount Gambier MFS	ENVIROLAB	23/01/2019	MG- ZHUKINI						<0.001	<0.001			<0.001	<0.001
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_CITRUS	<0.01	<0.05	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_TOMATO	<0.01	<0.05	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Paradise MFS	ENVIROLAB	25/01/2019	Paradise_apricot						<0.001	<0.001			<0.001	<0.001
Port Adelaide MFS	ENVIROLAB	22/01/2019	PortAdelaide_EGGS-Whites						<0.005	<0.005			<0.001	<0.001
Port Adelaide MFS	ENVIROLAB	22/01/2019	PortAdelaide_EGGS-Yolks						0.012	0.12			0.51	0.42
Prospect MFS	ENVIROLAB	22/01/2019	Prospect_Lemon						<0.001	<0.001			<0.001	<0.001
Prospect MFS	ENVIROLAB	22/01/2019	Prospect_Lime						<0.001	<0.001			<0.001	<0.001
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_LEMON						<0.001	<0.001			0.005	0.002
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_NECTARINE						<0.001	<0.001			<0.001	<0.001
St Marys MFS	ENVIROLAB	23/01/2019	STMARYS_ORANGE						0.003	<0.001			0.002	<0.001
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Apple						<0.001	<0.001			<0.001	<0.001
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Grapes						<0.001	<0.001			<0.001	<0.001
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Lime						<0.001	<0.001			<0.001	<0.001
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Peach						<0.001	<0.001			<0.001	<0.001
Woodville MFS	ENVIROLAB	22/01/2019	Woodville_Tomatoes						<0.001	<0.001			<0.001	<0.001

					Perfluorobutane sulfonic acid (PFBS)		Perfluorohexane sulfonic acid (PFHxS)		Perfluorooctane sulfonic acid (PFOS)		Perfluorobutanoic acid (PFBA)		Perfluoropentanoic acid (PFPeA)		Perfluorohexanoic acid (PFHxA)		Perfluoroheptanoic acid (PFHpA)	
					µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg
EQL					0.02	0.0002	0.01	0.0001	0.01	0.0001	0.1	0.001	0.02	0.0002	0.02	0.0002	0.02	0.0002
Site ID	**Location Code**	**Field ID**	**Sample Type**	**Matrix Type**														
Peterborough MFS	97_WD_DS	097_delivery L	Normal	water			<0.01		<0.01									
Peterborough MFS	97_WD_DS	QCRW_2 delivery R	Interlab_D	water	<0.02		<0.02		<0.01		<0.1		<0.02		<0.02		<0.02	
RPD							0		0									
Peterborough MFS	97_WD_PS	097_delivery R	Normal	water			<0.01		<0.01									
Peterborough MFS	97_WD_PS	QCRW_2 delivery L	Interlab_D	water	<0.02		<0.02		<0.01		<0.1		<0.02		<0.02		<0.02	
RPD							0		0									
Peterborough MFS	97_H_PS	097_hose L	Normal	water			<0.01		<0.01									
Peterborough MFS	97_H_PS	QCRW_2 hose L	Interlab_D	water	<0.02		<0.02		0.06		<0.1		<0.02		<0.02		<0.02	
RPD							0		143									
Peterborough MFS	97_H_DS	097_hose R	Normal	water			<0.01		0.01									
Peterborough MFS	97_H_DS	QCRW_2 hose R	Interlab_D	water	<0.02		<0.02		<0.01		<0.1		<0.02		<0.02		<0.02	
RPD							0		0									
Peterborough MFS	97_Monitor	097_mointor	Normal	water			<0.01		<0.01									
Peterborough MFS	97_Monitor	QCRW_2 monitor	Interlab_D	water	<0.02		<0.02		<0.01		<0.1		<0.02		<0.02		<0.02	
RPD							0		0									
Peterborough MFS	97_Water tank	097_tank	Normal	water			<0.01		<0.01									
Peterborough MFS	97_Water tank	QCRW_2 tank	Interlab_D	water	<0.02		<0.02		<0.01		<0.1		<0.02		<0.02		<0.02	
RPD							0		0									
Port Lincoln MFS	175_WD_PS	175_delivery L	Normal	water			<0.01		0.02									
Port Lincoln MFS	175_WD_PS	QCRW_3 delivery R	Field_D	water			<0.01		0.02									
RPD							0		0									
Port Lincoln MFS	175_WD_DS	175_delivery R	Normal	water			<0.01		0.02									
Port Lincoln MFS	175_WD_DS	QCRW_3 delivery L	Field_D	water			<0.01		0.02									
RPD							0		0									
Port Lincoln MFS	175_H_PS	175_hose L	Normal	water			<0.01		<0.01									
Port Lincoln MFS	175_H_PS	QCRW_3 hose L	Field_D	water			<0.01		<0.01									
RPD							0		0									
Port Lincoln MFS	175_Monitor	175_monitor	Normal	water			<0.01		0.09									
Port Lincoln MFS	175_Monitor	QCRW_3 monitor	Field_D	water			<0.01		0.1									
RPD							0		11									
Port Lincoln MFS	175_Water tank	175_tank	Normal	water			<0.01		<0.01									
Port Lincoln MFS	175_Water tank	QCRW_3 tank	Field_D	water			<0.01		<0.01									
RPD							0		0									
Port Lincoln MFS	175_H_DS	175-hose R	Normal	water			<0.01		0.06									
Port Lincoln MFS	175_H_DS	QCRW_3 hose R	Field_D	water			<0.01		0.07									
RPD							0		15									
Whyalla MFS	186_WD_PS	186_delivery L	Normal	water			<0.01		0.04									
Whyalla MFS	186_WD_PS	QCRW_1 delivery L	Field_D	water			<0.01		0.05									

					Perfluorobutane sulfonic acid (PFBS)		Perfluorohexane sulfonic acid (PFHxS)		Perfluorooctane sulfonic acid (PFOS)		Perfluorobutanoic acid (PFBA)		Perfluoropentanoic acid (PFPeA)		Perfluorohexanoic acid (PFHxA)		Perfluoroheptanoic acid (PFHpA)	
					µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg
RPD							0		22									
Whyalla MFS	186_WD_DS	186_delivery R	Normal	water			<0.01		0.06									
Whyalla MFS	186_WD_DS	QCRW_1 delivery R	Field_D	water			<0.01		0.05									
RPD							0		18									
Whyalla MFS	186_H_PS	186_hose L	Normal	water			<0.01		0.03									
Whyalla MFS	186_H_PS	QCRW_1 hose L	Field_D	water			<0.01		0.02									
RPD							0		40									
Whyalla MFS	186_H_DS	186_hose R	Normal	water			<0.01		0.02									
Whyalla MFS	186_H_DS	QCRW_1 hose R	Field_D	water			0.01		0.02									
RPD							0		0									
Whyalla MFS	186_Monitor	186_monitor	Normal	water			<0.01		0.02									
Whyalla MFS	186_Monitor	QCRW_1 monitor	Field_D	water			<0.01		<0.01									
RPD							0		67									
Whyalla MFS	186_Water tank	186_tank	Normal	water			<0.01		<0.01									
Whyalla MFS	186_Water tank	QCRW_1 tank	Field_D	water			<0.01		0.02									
RPD							0		67									
Port Lincoln MFS	212_WD_PS	212_delivery	Normal	water			<0.01		0.02									
Port Lincoln MFS	212_WD_PS	QCRW_4 delivery	Interlab_D	water	<0.02		<0.02		0.02		<0.1		<0.02		<0.02		<0.02	
RPD							0		0									
Port Lincoln MFS	212_H_PS	212_hose	Normal	water			<0.01		0.06									
Port Lincoln MFS	212_H_PS	QCRW_4 hose	Interlab_D	water	<0.02		<0.02		<0.01		<0.1		<0.02		<0.02		<0.02	
RPD							0		143									
Peterborough MFS	Peter1	Peterborough_1	Normal	soil				0.0026		0.34								
Peterborough MFS	Peter1	QCRW_6	Interlab_D	soil		0.0005		0.0076		0.288		<0.001		0.0005		0.0011		0.0002
RPD								**98**		17								
Peterborough MFS	Peter2	Peterborough_2	Normal	soil				0.0086		0.16								
Peterborough MFS	Peter2	QCRW_7	Field_D	soil				0.0081		0.15								
RPD								6		6								
Port Lincoln MFS	Lincoln1	Port Lincoln_1	Normal	soil				0.0011		0.017								
Port Lincoln MFS	Lincoln1	QCRW_5	Field_D	soil				0.0010		0.019								
RPD								10		11								
Murray Bridge MFS	88_WD_PS	088-Passenger Delivery	Normal	water			<0.01		0.06									
Murray Bridge MFS	88_WD_PS	FD01-MH	Field_D	water			<0.01		0.04									
RPD							0		40									
Murray Bridge MFS	MBRIDGE_1	MBRIDGE-1	Normal	soil				0.0021		0.057								
Murray Bridge MFS	MBRIDGE_1	QA03	Field_D	soil				0.0028		0.052								
RPD								29		9								
Mount Gambier MFS	1401_H_PS	1401- Passenger Hose Reel	Normal	water			<0.01		<0.01									
Mount Gambier MFS	1401_H_PS	FD03-MH	Field_D	water			<0.01		<0.01									
RPD							0		0									
Victor Harbor MFS	187_H_DS	187_H_D	Normal	water			<0.01		0.04									
Victor Harbor MFS	87_H_DS	QA01_H_D_JC	Field_D	water			<0.01		0.03									

					Perfluorobutane sulfonic acid (PFBS)		Perfluorohexane sulfonic acid (PFHxS)		Perfluorooctane sulfonic acid (PFOS)		Perfluorobutanoic acid (PFBA)		Perfluoropentanoic acid (PFPeA)		Perfluorohexanoic acid (PFHxA)		Perfluoroheptanoic acid (PFHpA)	
					µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg
RPD							0		29									
Victor Harbor MFS	87_H_DS	QA02_H_D_JC	Field_D	water			<0.01		0.03									
RPD							0		29									
Victor Harbor MFS	187_H_PS	187_H_P	Normal	water			<0.01		0.08									
Victor Harbor MFS	87_H_PS	QA01_H_P_JC	Field_D	water			<0.01		0.13									
RPD							0		48									
Victor Harbor MFS	87_H_PS	QA02_H_P_JC	Field_D	water			<0.01		0.1									
RPD							0		22									
Victor Harbor MFS	187_Monitor	187_Monitor	Normal	water			<0.01		<0.01									
Victor Harbor MFS	187_Monitor	QA01_Monitor_JC	Field_D	water			<0.01		<0.01									
RPD							0		0									
Victor Harbor MFS	187_Monitor	QA02_Monitor_JC	Field_D	water			<0.01		<0.01									
RPD							0		0									
Victor Harbor MFS	187_WD_DS	187_WD_D	Normal	water			<0.01		0.05									
Victor Harbor MFS	187_WD_DS	QA01_WD_D_JC	Field_D	water			<0.01		0.05									
RPD							0		0									
Victor Harbor MFS	187_WD_DS	QA02_WD_D_JC	Field_D	water			<0.01		0.05									
RPD							0		0									
Victor Harbor MFS	187_WD_PS	187_WD_P	Normal	water			<0.01		0.05									
Victor Harbor MFS	187_WD_PS	QA01_WD_P_JC	Field_D	water			<0.01		0.04									
RPD							0		22									
Victor Harbor MFS	187_WD_PS	QA02_WD_P_JC	Field_D	water			<0.01		0.04									
RPD							0		22									
Victor Harbor MFS	187_Water tank	187_WT	Normal	water			<0.01		<0.01									
Victor Harbor MFS	187_Water tank	QA01_WT_JC	Field_D	water			<0.01		<0.01									
RPD							0		0									
Victor Harbor MFS	187_Water tank	QA02_WT_JC	Field_D	water			<0.01		<0.01									
RPD							0		0									
Mount Gambier MFS	188_WD_DS	188- Driver Delivery	Normal	water			<0.01		<0.01									
Mount Gambier MFS	188_WD_DS	FD02_MH	Interlab_D	water	<0.02		<0.02		0.02		<0.1		<0.02		<0.02		<0.02	
RPD							0		67									
Mount Gambier MFS	MTGAMBIER_2	Mt Gambier-2	Normal	soil				0.011		0.15								
Mount Gambier MFS	MTGAMBIER_2	QA04	Interlab_D	soil		0.0003		0.0076		0.138		0.002		0.0117		0.0153		0.0042
RPD								37		8								
Mount Gambier MFS		MountGambier_SWP	Normal	water			0.06		0.35									
Mount Gambier MFS		QC	Interlab_D	water			0.07		0.35									
RPD							15		0									

					PFAS											
					Perfluorooctanoic acid (PFOA)		4:2 Fluorotelomer sulfonic acid (4:2 FTS)		6:2 Fluorotelomer Sulfonate (6:2 FTS)		8:2 Fluorotelomer sulfonic acid (8:2 FTS)		10:2 Fluorotelomer sulfonic acid (10:2 FTS)		PFAS (Sum of Total)		Sum of PFHxS and PFOS	
					µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg
EQL					0.01	0.0001	0.05	0.0005	0.01	0.0001	0.01	0.0001	0.05	0.0005	0.01	0.0001	0.01	0.0001
Site ID	**Location Code**	**Field ID**	**Sample Type**	**Matrix Type**														
Peterborough MFS	97_WD_DS	097_delivery L	Normal	water	<0.01				0.05		0.04				0.09		<0.01	
Peterborough MFS	97_WD_DS	QCRW_2 delivery R	Interlab_D	water	<0.01		<0.05		0.09		<0.05		<0.05				<0.01	
RPD					0				57		0						0	
Peterborough MFS	97_WD_PS	097_delivery R	Normal	water	<0.01				0.09		0.05				0.15		<0.01	
Peterborough MFS	97_WD_PS	QCRW_2 delivery L	Interlab_D	water	<0.01		<0.05		0.09		<0.05		<0.05				<0.01	
RPD					0				0		0						0	
Peterborough MFS	97_H_PS	097_hose L	Normal	water	<0.01				0.20		0.08				0.28		<0.01	
Peterborough MFS	97_H_PS	QCRW_2 hose L	Interlab_D	water	<0.01		<0.05		<0.05		<0.05		<0.05				0.06	
RPD					0				**120**		46						143	
Peterborough MFS	97_H_DS	097_hose R	Normal	water	<0.01				0.13		0.04				0.18		0.01	
Peterborough MFS	97_H_DS	QCRW_2 hose R	Interlab_D	water	<0.01		<0.05		0.26		0.12		<0.05				<0.01	
RPD					0				**67**		100						0	
Peterborough MFS	97_Monitor	097_mointor	Normal	water	<0.01				0.01		0.01				0.02		<0.01	
Peterborough MFS	97_Monitor	QCRW_2 monitor	Interlab_D	water	<0.01		<0.05		<0.05		<0.05		<0.05				<0.01	
RPD					0				0		0						0	
Peterborough MFS	97_Water tank	097_tank	Normal	water	<0.01				0.01		<0.01				0.01		<0.01	
Peterborough MFS	97_Water tank	QCRW_2 tank	Interlab_D	water	<0.01		<0.05		<0.05		<0.05		<0.05				<0.01	
RPD					0				0		0						0	
Port Lincoln MFS	175_WD_PS	175_delivery L	Normal	water	<0.01				0.07		0.02				0.11		0.02	
Port Lincoln MFS	175_WD_PS	QCRW_3 delivery R	Field_D	water	<0.01				0.06		0.02				0.10		0.02	
RPD					0				15		0				10		0	
Port Lincoln MFS	175_WD_DS	175_delivery R	Normal	water	<0.01				0.06		0.02				0.10		0.02	
Port Lincoln MFS	175_WD_DS	QCRW_3 delivery L	Field_D	water	<0.01				0.07		0.03				0.12		0.02	
RPD					0				15		40				18		0	
Port Lincoln MFS	175_H_PS	175_hose L	Normal	water	<0.01				0.02		0.04				0.06		<0.01	
Port Lincoln MFS	175_H_PS	QCRW_3 hose L	Field_D	water	<0.01				0.02		0.02				0.04		<0.01	
RPD					0				0		67				40		0	
Port Lincoln MFS	175_Monitor	175_monitor	Normal	water	0.03				0.03		0.04				0.19		0.09	
Port Lincoln MFS	175_Monitor	QCRW_3 monitor	Field_D	water	0.03				0.03		0.05				0.21		0.1	
RPD					0				0		22				10		11	
Port Lincoln MFS	175_Water tank	175_tank	Normal	water	<0.01				<0.01		<0.01				<0.01		<0.01	
Port Lincoln MFS	175_Water tank	QCRW_3 tank	Field_D	water	<0.01				<0.01		<0.01				<0.01		<0.01	
RPD					0				0		0				0		0	
Port Lincoln MFS	175_H_DS	175-hose R	Normal	water	<0.01				<0.01		0.1				0.15		0.06	
Port Lincoln MFS	175_H_DS	QCRW_3 hose R	Field_D	water	<0.01				<0.01		0.13				0.20		0.07	
RPD					0				0		26				29		15	
Whyalla MFS	186_WD_PS	186_delivery L	Normal	water	<0.01				<0.01		<0.01				0.04		0.04	
Whyalla MFS	186_WD_PS	QCRW_1 delivery L	Field_D	water	<0.01				<0.01		<0.01				0.05		0.05	

					PFAS													
					Perfluorooctanoic acid (PFOA)		4:2 Fluorotelomer sulfonic acid (4:2 FTS)		6:2 Fluorotelomer Sulfonate (6:2 FTS)		8:2 Fluorotelomer sulfonic acid (8:2 FTS)		10:2 Fluorotelomer sulfonic acid (10:2 FTS)		PFAS (Sum of Total)		Sum of PFHxS and PFOS	
					µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg
RPD					0				0		0				22		22	
Whyalla MFS	186_WD_DS	186_delivery R	Normal	water	<0.01				<0.01		0.01				0.07		0.06	
Whyalla MFS	186_WD_DS	QCRW_1 delivery R	Field_D	water	<0.01				<0.01		<0.01				0.05		0.05	
RPD					0				0		0				33		18	
Whyalla MFS	186_H_PS	186_hose L	Normal	water	<0.01				<0.01		<0.01				0.03		0.03	
Whyalla MFS	186_H_PS	QCRW_1 hose L	Field_D	water	<0.01				<0.01		<0.01				0.02		0.02	
RPD					0				0		0				40		40	
Whyalla MFS	186_H_DS	186_hose R	Normal	water	0.01				0.45		0.15				0.63		0.02	
Whyalla MFS	186_H_DS	QCRW_1 hose R	Field_D	water	0.01				0.41		0.13				0.59		0.03	
RPD					0				9		14				7		40	
Whyalla MFS	186_Monitor	186_monitor	Normal	water	<0.01				<0.01		<0.01				0.02		0.02	
Whyalla MFS	186_Monitor	QCRW_1 monitor	Field_D	water	<0.01				<0.01		<0.01				<0.01		<0.01	
RPD					0				0		0				67		67	
Whyalla MFS	186_Water tank	186_tank	Normal	water	<0.01				<0.01		<0.01				<0.01		<0.01	
Whyalla MFS	186_Water tank	QCRW_1 tank	Field_D	water	<0.01				<0.01		<0.01				0.02		0.02	
RPD					0				0		0				67		67	
Port Lincoln MFS	212_WD_PS	212_delivery	Normal	water	<0.01				<0.01		<0.01				0.02		0.02	
Port Lincoln MFS	212_WD_PS	QCRW_4 delivery	Interlab_D	water	<0.01		<0.05		<0.05		<0.05		<0.05				0.02	
RPD					0				0		0						0	
Port Lincoln MFS	212_H_PS	212_hose	Normal	water	<0.01				0.01		0.03				0.09		0.06	
Port Lincoln MFS	212_H_PS	QCRW_4 hose	Interlab_D	water	<0.01		<0.05		0.36		0.13		<0.05				<0.01	
RPD					0				189		125						143	
Peterborough MFS	Peter1	Peterborough_1	Normal	soil		0.0003				<0.0001		<0.0001				0.34		0.34
Peterborough MFS	Peter1	QCRW_6	Interlab_D	soil		0.0007		<0.0005		<0.0005		<0.0005		<0.0005				0.296
RPD						80				0		0						14
Peterborough MFS	Peter2	Peterborough_2	Normal	soil		0.001				0.0004		0.0001				0.17		0.17
Peterborough MFS	Peter2	QCRW_7	Field_D	soil		0.0010				0.0004		0.0002				0.16		0.16
RPD						0				0		67				6		6
Port Lincoln MFS	Lincoln1	Port Lincoln_1	Normal	soil		<0.002				<0.002		<0.002				0.019		0.019
Port Lincoln MFS	Lincoln1	QCRW_5	Field_D	soil		<0.002				<0.002		<0.002				0.021		0.021
RPD						0				0		0				10		10
Murray Bridge MFS	88_WD_PS	088-Passenger Delivery	Normal	water	<0.01				0.10		0.04				0.20		0.06	
Murray Bridge MFS	88_WD_PS	FD01-MH	Field_D	water	<0.01				0.1		0.04				0.18		0.04	
RPD					0				0		0				11		40	
Murray Bridge MFS	MBRIDGE_1	MBRIDGE-1	Normal	soil		0.0006				0.0002		0.0005				0.06		0.059
Murray Bridge MFS	MBRIDGE_1	QA03	Field_D	soil		0.0008				0.0002		0.0005				0.056		0.055
RPD						29				0		0				7		7
Mount Gambier MFS	1401_H_PS	1401- Passenger Hose Reel	Normal	water	<0.01				<0.01		<0.01				<0.01		<0.01	
Mount Gambier MFS	1401_H_PS	FD03-MH	Field_D	water	<0.01				<0.01		<0.01				<0.01		<0.01	
RPD					0				0		0				0		0	
Victor Harbor MFS	187_H_DS	187_H_D	Normal	water	0.02				0.37		0.11				0.53		0.04	
Victor Harbor MFS	87_H_DS	QA01_H_D_JC	Field_D	water	0.02				0.20		0.24				0.49		0.03	

					PFAS													
					Perfluorooctanoic acid (PFOA)		4:2 Fluorotelomer sulfonic acid (4:2 FTS)		6:2 Fluorotelomer Sulfonate (6:2 FTS)		8:2 Fluorotelomer sulfonic acid (8:2 FTS)		10:2 Fluorotelomer sulfonic acid (10:2 FTS)		PFAS (Sum of Total)		Sum of PFHxS and PFOS	
					µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg	µg/L	mg/kg
RPD					0				**60**		**74**				8		29	
Victor Harbor MFS	87_H_DS	QA02_H_D_JC	Field_D	water	0.02				0.24		0.17				0.47		0.03	
RPD					0				43		43				12		29	
Victor Harbor MFS	187_H_PS	187_H_P	Normal	water	0.03				0.50		0.22				0.83		0.08	
Victor Harbor MFS	87_H_PS	QA01_H_P_JC	Field_D	water	0.03				0.50		0.34				1.0		0.13	
RPD					0				0		43				19		48	
Victor Harbor MFS	87_H_PS	QA02_H_P_JC	Field_D	water	0.02				0.44		0.24				0.80		0.1	
RPD					40				13		9				4		22	
Victor Harbor MFS	187_Monitor	187_Monitor	Normal	water	<0.01				0.09		0.05				0.14		<0.01	
Victor Harbor MFS	187_Monitor	QA01_Monitor_JC	Field_D	water	<0.01				0.12		0.06				0.18		<0.01	
RPD					0				29		18				25		0	
Victor Harbor MFS	187_Monitor	QA02_Monitor_JC	Field_D	water	<0.01				0.11		0.03				0.15		<0.01	
RPD					0				20		50				7		0	
Victor Harbor MFS	187_WD_DS	187_WD_D	Normal	water	0.03				0.62		0.16				0.86		0.05	
Victor Harbor MFS	187_WD_DS	QA01_WD_D_JC	Field_D	water	0.03				0.55		0.19				0.82		0.05	
RPD					0				12		17				5		0	
Victor Harbor MFS	187_WD_DS	QA02_WD_D_JC	Field_D	water	0.03				0.45		0.15				0.68		0.05	
RPD					0				32		6				23		0	
Victor Harbor MFS	187_WD_PS	187_WD_P	Normal	water	0.04				0.76		0.22				1.1		0.05	
Victor Harbor MFS	187_WD_PS	QA01_WD_P_JC	Field_D	water	0.03				0.74		0.22				1.0		0.04	
RPD					29				3		0				10		22	
Victor Harbor MFS	187_WD_PS	QA02_WD_P_JC	Field_D	water	0.04				0.66		0.21				0.95		0.04	
RPD					0				14		5				15		22	
Victor Harbor MFS	187_Water tank	187_WT	Normal	water	<0.01				0.06		0.03				0.09		<0.01	
Victor Harbor MFS	187_Water tank	QA01_WT_JC	Field_D	water	<0.01				0.08		0.04				0.12		<0.01	
RPD					0				29		29				29		0	
Victor Harbor MFS	187_Water tank	QA02_WT_JC	Field_D	water	<0.01				0.06		0.03				0.1		<0.01	
RPD					0				0		0				11		0	
Mount Gambier MFS	188_WD_DS	188- Driver Delivery	Normal	water	<0.01				0.03		0.01				0.04		<0.01	
Mount Gambier MFS	188_WD_DS	FD02_MH	Interlab_D	water	<0.01		<0.05		<0.05		<0.05		<0.05				0.02	
RPD					0				0		0						67	
Mount Gambier MFS	MTGAMBIER_2	Mt Gambier-2	Normal	soil		0.0034				0.0036		0.0023				0.17		0.16
Mount Gambier MFS	MTGAMBIER_2	QA04	Interlab_D	soil		0.0040		<0.0005		0.0033		0.0022		<0.0005				0.146
RPD						16				9		4						9
Mount Gambier MFS		MountGambier_SWP	Normal	water	0.01				0.04		0.02				0.5		0.41	
Mount Gambier MFS		QC	Interlab_D	water	0.02				0.05		0.04				0.53		0.42	
RPD					**67**				22		**67**				6		2	

					PFAS (Sum of Total)(WA DER List)		Sum of US EPA PFAS (PFOS + PFOA)*	
					µg/L	mg/kg	µg/L	mg/kg
EQL					0.01	0.0002	0.01	0.0001
Site ID	**Location Code**	**Field ID**	**Sample Type**	**Matrix Type**				
Peterborough MFS	97_WD_DS	097_delivery L	Normal	water			<0.01	
Peterborough MFS	97_WD_DS	QCRW_2 delivery R	Interlab_D	water	0.09			
RPD								
Peterborough MFS	97_WD_PS	097_delivery R	Normal	water			<0.01	
Peterborough MFS	97_WD_PS	QCRW_2 delivery L	Interlab_D	water	0.09			
RPD								
Peterborough MFS	97_H_PS	097_hose L	Normal	water			<0.01	
Peterborough MFS	97_H_PS	QCRW_2 hose L	Interlab_D	water	0.06			
RPD								
Peterborough MFS	97_H_DS	097_hose R	Normal	water			0.01	
Peterborough MFS	97_H_DS	QCRW_2 hose R	Interlab_D	water	0.38			
RPD								
Peterborough MFS	97_Monitor	097_mointor	Normal	water			<0.01	
Peterborough MFS	97_Monitor	QCRW_2 monitor	Interlab_D	water	<0.01			
RPD								
Peterborough MFS	97_Water tank	097_tank	Normal	water			<0.01	
Peterborough MFS	97_Water tank	QCRW_2 tank	Interlab_D	water	<0.01			
RPD								
Port Lincoln MFS	175_WD_PS	175_delivery L	Normal	water			0.02	
Port Lincoln MFS	175_WD_PS	QCRW_3 delivery R	Field_D	water			0.02	
RPD							0	
Port Lincoln MFS	175_WD_DS	175_delivery R	Normal	water			0.02	
Port Lincoln MFS	175_WD_DS	QCRW_3 delivery L	Field_D	water			0.02	
RPD							0	
Port Lincoln MFS	175_H_PS	175_hose L	Normal	water			<0.01	
Port Lincoln MFS	175_H_PS	QCRW_3 hose L	Field_D	water			<0.01	
RPD							0	
Port Lincoln MFS	175_Monitor	175_monitor	Normal	water			0.12	
Port Lincoln MFS	175_Monitor	QCRW_3 monitor	Field_D	water			0.13	
RPD							8	
Port Lincoln MFS	175_Water tank	175_tank	Normal	water			<0.01	
Port Lincoln MFS	175_Water tank	QCRW_3 tank	Field_D	water			<0.01	
RPD							0	
Port Lincoln MFS	175_H_DS	175-hose R	Normal	water			0.06	
Port Lincoln MFS	175_H_DS	QCRW_3 hose R	Field_D	water			0.07	
RPD							15	
Whyalla MFS	186_WD_PS	186_delivery_L	Normal	water			0.04	
Whyalla MFS	186_WD_PS	QCRW_1 delivery L	Field_D	water			0.05	

					PFAS (Sum of Total)(WA DER List)		Sum of US EPA PFAS (PFOS + PFOA)*	
					µg/L	mg/kg	µg/L	mg/kg
RPD							22	
Whyalla MFS	186_WD_DS	186_delivery R	Normal	water			0.06	
Whyalla MFS	186_WD_DS	QCRW_1 delivery R	Field_D	water			0.05	
RPD							18	
Whyalla MFS	186_H_PS	186_hose L	Normal	water			0.03	
Whyalla MFS	186_H_PS	QCRW_1 hose L	Field_D	water			0.02	
RPD							40	
Whyalla MFS	186_H_DS	186_hose R	Normal	water			0.03	
Whyalla MFS	186_H_DS	QCRW_1 hose R	Field_D	water			0.03	
RPD							0	
Whyalla MFS	186_Monitor	186_monitor	Normal	water			0.02	
Whyalla MFS	186_Monitor	QCRW_1 monitor	Field_D	water			<0.01	
RPD							67	
Whyalla MFS	186_Water tank	186_tank	Normal	water			<0.01	
Whyalla MFS	186_Water tank	QCRW_1 tank	Field_D	water			0.02	
RPD							67	
Port Lincoln MFS	212_WD_PS	212_delivery	Normal	water			0.02	
Port Lincoln MFS	212_WD_PS	QCRW_4 delivery	Interlab_D	water	0.02			
RPD								
Port Lincoln MFS	212_H_PS	212_hose	Normal	water			0.06	
Port Lincoln MFS	212_H_PS	QCRW_4 hose	Interlab_D	water	0.49			
RPD								
Peterborough MFS	Peter1	Peterborough_1	Normal	soil				0.34
Peterborough MFS	Peter1	QCRW_6	Interlab_D	soil		0.299		
RPD								
Peterborough MFS	Peter2	Peterborough_2	Normal	soil				0.16
Peterborough MFS	Peter2	QCRW_7	Field_D	soil				0.15
RPD								6
Port Lincoln MFS	Lincoln1	Port Lincoln_1	Normal	soil				0.017
Port Lincoln MFS	Lincoln1	QCRW_5	Field_D	soil				0.019
RPD								11
Murray Bridge MFS	88_WD_PS	088-Passenger Delivery	Normal	water			0.06	
Murray Bridge MFS	88_WD_PS	FD01-MH	Field_D	water			0.04	
RPD							40	
Murray Bridge MFS	MBRIDGE_1	MBRIDGE-1	Normal	soil				0.058
Murray Bridge MFS	MBRIDGE_1	QA03	Field_D	soil				0.053
RPD								9
Mount Gambier MFS	1401_H_PS	1401- Passenger Hose Reel	Normal	water			<0.01	
Mount Gambier MFS	1401_H_PS	FD03-MH	Field_D	water			<0.01	
RPD							0	
Victor Harbor MFS	187_H_DS	187_H_D	Normal	water			0.05	
Victor Harbor MFS	87_H_DS	QA01_H_D_JC	Field_D	water			0.05	

					PFAS (Sum of Total)(WA DER List)		Sum of US EPA PFAS (PFOS + PFOA)*	
					µg/L	mg/kg	µg/L	mg/kg
RPD							0	
Victor Harbor MFS	87_H_DS	QA02_H_D_JC	Field_D	water			0.05	
RPD							0	
Victor Harbor MFS	187_H_PS	187_H_P	Normal	water			0.11	
Victor Harbor MFS	87_H_PS	QA01_H_P_JC	Field_D	water			0.16	
RPD							37	
Victor Harbor MFS	87_H_PS	QA02_H_P_JC	Field_D	water			0.12	
RPD							9	
Victor Harbor MFS	187_Monitor	187_Monitor	Normal	water			<0.01	
Victor Harbor MFS	187_Monitor	QA01_Monitor_JC	Field_D	water			<0.01	
RPD							0	
Victor Harbor MFS	187_Monitor	QA02_Monitor_JC	Field_D	water			<0.01	
RPD							0	
Victor Harbor MFS	187_WD_DS	187_WD_D	Normal	water			0.08	
Victor Harbor MFS	187_WD_DS	QA01_WD_D_JC	Field_D	water			0.08	
RPD							0	
Victor Harbor MFS	187_WD_DS	QA02_WD_D_JC	Field_D	water			0.07	
RPD							13	
Victor Harbor MFS	187_WD_PS	187_WD_P	Normal	water			0.09	
Victor Harbor MFS	187_WD_PS	QA01_WD_P_JC	Field_D	water			0.08	
RPD							12	
Victor Harbor MFS	187_WD_PS	QA02_WD_P_JC	Field_D	water			0.08	
RPD							12	
Victor Harbor MFS	187_Water tank	187_WT	Normal	water			<0.01	
Victor Harbor MFS	187_Water tank	QA01_WT_JC	Field_D	water			<0.01	
RPD							0	
Victor Harbor MFS	187_Water tank	QA02_WT_JC	Field_D	water			<0.01	
RPD							0	
Mount Gambier MFS	188_WD_DS	188- Driver Delivery	Normal	water			<0.01	
Mount Gambier MFS	188_WD_DS	FD02_MH	Interlab_D	water	0.02			
RPD								
Mount Gambier MFS	MTGAMBIER_2	Mt Gambier-2	Normal	soil				0.15
Mount Gambier MFS	MTGAMBIER_2	QA04	Interlab_D	soil		0.189		
RPD								
Mount Gambier MFS		MountGambier_SWP	Normal	water			0.36	
Mount Gambier MFS		QC	Interlab_D	water			0.37	
RPD							3	

						Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecanesulfonic acid (PFDS)	Perfluoro-n-hexadecanoic acid (PFHxDA)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						0.001	0.001	0.001	0.001	0.002	0.001	0.002	0.005	0.002
Site ID	**Lab Name**	**Date**	**Field ID**	**Sample Type**	**Matrix Type**									
	ENVIROLAB	21/01/2019	RB_RW1	Rinsate	water			<0.01		<0.01				
	ENVIROLAB	22/01/2019	RB_RW2	Rinsate	water			<0.01		<0.01				
	ENVIROLAB	23/01/2019	RB_RW3	Rinsate	water			<0.01		<0.01				
	ENVIROLAB	24/01/2019	RB_RW4	Rinsate	water			<0.01		<0.01				
	ENVIROLAB	21/01/2019	RB01	Rinsate	water			<0.01		<0.01				
	ENVIROLAB	22/01/2019	RB02	Rinsate	water			<0.01		<0.01				
	ENVIROLAB	23/01/2019	RB03	Rinsate	water			<0.01		<0.01				
	ENVIROLAB	25/01/2019	RB04	Rinsate	water			<0.01		<0.01				
Adelaide MFS	ENVIROLAB	29/01/2019	ADI_RINSATE	Rinsate	water			<0.01		<0.01				
Loxton MFS	ENVIROLAB	23/01/2019	Rin1	Rinsate	water			<0.01		<0.01				
Loxton MFS	ENVIROLAB	23/01/2019	Rins2	Rinsate	water			<0.01		<0.01				
Mount Gambier MFS	ENVIROLAB	23/01/2019	Mt Gambier Rinsate	Rinsate	water			<0.01		<0.01				
Murray Bridge MFS	ENVIROLAB	22/01/2019	Murray Rinsate	Rinsate	water			<0.01		<0.01				
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_01	Rinsate	water			<0.01		<0.01				

				PFAS										
				Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.002	0.002
Site ID	**Lab Name**	**Date**	**Field ID**												
	ENVIROLAB	21/01/2019	RB_RW1			<0.01									
	ENVIROLAB	22/01/2019	RB_RW2			<0.01									
	ENVIROLAB	23/01/2019	RB_RW3			<0.01									
	ENVIROLAB	24/01/2019	RB_RW4			<0.01									
	ENVIROLAB	21/01/2019	RB01			<0.01									
	ENVIROLAB	22/01/2019	RB02			<0.01									
	ENVIROLAB	23/01/2019	RB03			<0.01									
	ENVIROLAB	25/01/2019	RB04			<0.01									
Adelaide MFS	ENVIROLAB	29/01/2019	ADI_RINSATE			<0.01									
Loxton MFS	ENVIROLAB	23/01/2019	Rin1			<0.01									
Loxton MFS	ENVIROLAB	23/01/2019	Rins2			<0.01									
Mount Gambier MFS	ENVIROLAB	23/01/2019	Mt Gambier Rinsate			<0.01									
Murray Bridge MFS	ENVIROLAB	22/01/2019	Murray Rinsate			<0.01									
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_01			<0.01									

				N-Methyl perfluorooctane sulfonamidoethanol (MEFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	PFAS (Sum of Total)	Sum of PFHxS and PFOS	Sum of US EPA PFAS (PFOS + PFOA)*	Perfluorooctadecanoic acid (PFODA)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.005	0.005	0.002	0.002	0.001	0.001	0.001	0.001	0.01	0.01	0.01	0.005
Site ID	**Lab Name**	**Date**	**Field ID**												
	ENVIROLAB	21/01/2019	RB_RW1						<0.01	<0.01		<0.01	<0.01	<0.01	
	ENVIROLAB	22/01/2019	RB_RW2						<0.01	<0.01		<0.01	<0.01	<0.01	
	ENVIROLAB	23/01/2019	RB_RW3						<0.01	<0.01		<0.01	<0.01	<0.01	
	ENVIROLAB	24/01/2019	RB_RW4						<0.01	<0.01		<0.01	<0.01	<0.01	
	ENVIROLAB	21/01/2019	RB01						<0.01	<0.01		<0.01	<0.01	<0.01	
	ENVIROLAB	22/01/2019	RB02						<0.01	<0.01		<0.01	<0.01	<0.01	
	ENVIROLAB	23/01/2019	RB03						<0.01	<0.01		<0.01	<0.01	<0.01	
	ENVIROLAB	25/01/2019	RB04						<0.01	<0.01		<0.01	<0.01	<0.01	
Adelaide MFS	ENVIROLAB	29/01/2019	ADI_RINSATE						<0.01	<0.01		<0.01	<0.01	<0.01	
Loxton MFS	ENVIROLAB	23/01/2019	Rin1						<0.01	<0.01		<0.01	<0.01	<0.01	
Loxton MFS	ENVIROLAB	23/01/2019	Rins2						<0.01	<0.01		<0.01	<0.01	<0.01	
Mount Gambier MFS	ENVIROLAB	23/01/2019	Mt Gambier Rinsate						<0.01	<0.01		<0.01	<0.01	<0.01	
Murray Bridge MFS	ENVIROLAB	22/01/2019	Murray Rinsate						<0.01	<0.01		<0.01	<0.01	<0.01	
Glen Osmond MFS	ENVIROLAB	27/03/2019	GLEN_01						<0.01	<0.01		<0.01	<0.01	<0.01	

Analytical Results Tables
Table 6 - Non-appliance Water Results

				PFAS							
				Perfluorohexanesulfonic acid - PFHxS	Perfluorooctanesulfonic acid PFOS	Perfluorooctanoic acid PFOA	6:2 FTS	8:2 FTS	Total Positive PFHxS & PFOS	Total Positive PFOA & PFOS	Total Positive PFAS
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PFAS NEMP 2018 Health Drinking Water						0.56			0.07		
PFAS NEMP 2018 Health Recreational Water						5.6			0.7		
Site ID	**Field ID**	**Date**	**Sample Type**								
Mount Gambier MFS	MountGambier_SWP	14/04/2019	Water	0.06	0.35	0.01	0.04	0.02	0.41	0.36	0.5
Glen Osmond MFS	Glen_Oil	27/03/2019	Water	0.06	0.16	0.01	0.73	0.11	0.22	0.17	1.1

Appendices

Appendix A – Site Details

Table A1 – Summary of general site identification information

Site Name:	Site Address:	Certificate of Title:	DP and Lot:	Property Owner:	Current Site Use:	Area:	Site Elevation:
South Australian Metropolitan Fire Service - Adelaide	99 Wakefield St, Adelaide SA 5000	CT6181/979	D112387 Lot A80	South Australian Metropolitan Fire Service	Fire Station	13154 m^2	46 m
Angle Park Fire Station	454 Grand Junction Road Angle Park SA 5010	CT6123/328	F126255 Lot A87			4408 m^2	4 m
Angle Park Training Centre	Gate 4, 480 Grand Junction Road Angle Park SA 5010	CT6005/338	D72468 Lot A206			9380 m^2	5 m
Berri Fire Station	1 Crawford Terrace Berri SA 5343	CT5335/228	H740200 Lot S1423			1538 m^2	30 m
Beulah Park Metropolitan Fire Service	319 The Parade, Beulah Park SA 5067	CT5855/526	F141260 Lot A99			2693 m^2	78 m
Brooklyn Park Fire Station	33 Airport Rd, Brooklyn Park SA 5032	CT5202/341	D40074 Lot A34			3333 m^2	6 m
Camden Park Metropolitan Fire Service	65 Morphett Rd, Camden Park SA 5038	CT5413/751	D2237 Lot A8			2523 m^2	6 m
Christie Downs Fire Station	Lot 121, Holman Rd, Christie Downs SA 5164	CT5534/85	D10165 A120			2312 m^2	62 m

Site Name:	Site Address:	Certificate of Title:	DP and Lot:	Property Owner:	Current Site Use:	Area:	Site Elevation:
Elizabeth Fire Station	85 Elizabeth Way, Elizabeth SA 5112	CT5814/39	F130708 Lot A16			3266 m^2	31 m
Gawler Fire Station	Ayers St, Gawler SA 5118	CT6085/777	F163065 Lot A96/ F217163 Lot A120			1876 m^2	63 m
Glen Osmond MFS	582 Portrush Rd, Glen Osmond SA 5064	CT5841/881	F15748 Lot A11			5333 m^2	139 M
Golden Grove Fire Station	1003 Golden Grove Rd, Surrey Downs SA 5126	CT5918/483	D63941 Lot A2			3756 m^2	178 m
Kadina Fire Station	13 Ewing St, Kadina SA 5554	CR5759/679	T211102 A271			592 m^2	48 m
Kapunda Fire Station	5 Main St, Kapunda SA 5373	CT5856/347	F176384 A312			412 m^2	255 m
Loxton MFS	1950 Bookpurnong Rd, Loxton SA 5333	CT5191/414	D17383 Lot A4			2190 m^2	43 m
SAMFS - Moonta	35 Caroline St, Moonta SA 5558	CT5690/145	F198475 Lot A294			847 m^2	30 m
Mt Gambier Fire Station	20 Crouch St S, Mount Gambier SA 5290	CT5714/676	F217597 Lot A200			3936 m^2	42 m
Murray Bridge Fire Station	31-33 Weigall Avenue, Murray Bridge SA 5253	CT5494/672	F9366 Lot A2			1733 m^2	37 m

Site Name:	Site Address:	Certificate of Title:	DP and Lot:	Property Owner:	Current Site Use:	Area:	Site Elevation:
O'Halloran Hill Metropolitan Fire Service	4 Majors Rd, O'Halloran Hill SA 5158	CT5500/291	F3402 Lot A1			2550 m^2	200 m
Paradise Fire Station	79 Darley Rd, Paradise SA 5075	CT6217/729	D73005 Lot A221			3857 m^2	60 m
Peterborough CFS	41 Kitchner Street, Peterborough SA 5422	CT5815/109	D1050 Lot A167			1002 m^2	535 m
Port Adelaide Fire Station	Grand Jct Rd, Port Adelaide SA 5015	CT5450/700	D20135 Lot A21			4299 m^2	1 m
Port Augusta Fire Station	1 Trent Rd, Port Augusta SA 5700	CR5759/680	H330600 Lot S1188			2939 m^2	8 m
Port Lincoln Fire Station	45 St Andrews Terrace, Port Lincoln SA 5606	CR5999/671	D74231 Lot A200			5550 m^2	20 m
Port Pirie Fire Station	Short St, Port Pirie South SA 5540	CT5800/269	H241000 Lot S57			2971 m^2	8 m
Prospect Metropolitan Fire Station	73 Johns Rd, Prospect SA 5082	CT5197/262	F110124 Lot A2			2636 m^2	47 m
Renmark Fire Station	129 Eighteenth St, Renmark SA 5341	CR5823/241	D55041 Lot A700			3595 m^2	24 m
Salisbury Command Fire Station	1 The Grove Way, Salisbury Heights SA 5109	CT5413/76	D24531 Lot A56			11232 m^2	57 m

Site Name:	Site Address:	Certificate of Title:	DP and Lot:	Property Owner:	Current Site Use:	Area:	Site Elevation:
Seaford Metropolitan Fire Service	41 Seaford Rd, Seaford Meadows SA 5169	CT5939/857	D66831 Lot A32			5570 m^2	29 m
St Marys Metropolitan Fire Station	1125 South Rd., St Marys SA 5042	CT5808/746	F12879 Lot A68			4280 m^2	33 m
Tanunda Metropolitan Fire Service	154-156 Murray St, Tanunda SA 5232	CT5535/241	D9998 Lot A41			1418 m^2	262 m
Victor Harbor Fire Station	126 Crozier Rd, Victor Harbor SA 5211	CT5535/391	D14304 Lot A91			1701 m^2	29 m
Wallaroo Fire Station	22 John Terrace, Wallaroo SA 5556	CT5777/354	T211103 Lot A139			1604 m^2	16 m
Whyalla MFS	89 Nicolson Ave, Whyalla Playford SA 5600	CT5212/286	D40252 Lot A104			4990 m^2	17 m
Woodville Metropolitan Fire Service	99 Findon Rd, Woodville South SA 5011	CT5773/270	F118793 Lot A11			2209 m^2	8 m

Appendix B – Scope of Works

Table B-1 – Summary of Scope of Works Appliance Sampling

Station	Appliance ID (fleet number)	Location of Sampling Points
Adelaide	1101	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	1102	Water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	083	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Gawler	1304	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Elizabeth	1103	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	193	Water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Salisbury	1704	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	1006	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	204	Water tank, deck branch, water delivery, fixed hose reel
Golden Grove	1701	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Paradise	1305	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Beulah Park	080	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Prospect	081	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Angle Park	1303	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Angle Park Training Centre	189	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	194	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	163	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)

Station	Appliance ID (fleet number)	Location of Sampling Points
	164	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Pt Adelaide	1301	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Woodville	1008	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	1707	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Brooklyn Park	1007	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Camden Park	1009	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
St Mary's	1706	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
O'Halloran Hill	1002	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Christie Downs	1603	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	1702	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Seaford	1001	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Victor Harbor	087	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	1012	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	187	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Murray Bridge	185	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	088	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Mt Gambier	210	Water tank, hose, water delivery

Station	Appliance ID (fleet number)	Location of Sampling Points
	188	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	098	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	1401	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Kapunda	641	On-board hose reel (driver and passenger), water delivery (driver and passenger)
Tanunda	631	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	639	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Berri	609	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	601	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	6014	Hose, water delivery
Renmark	208	Hose, water delivery
	165	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	200	On-board hose reel (driver and passenger), water delivery (driver and passenger)
	140	Pump, water delivery
Loxton	202	Water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	211	Hose (x2)
Kadina	178	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Moonta	193	Water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Pt Pirie	196	Water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	205	Water tank, hose, water delivery

Station	Appliance ID (fleet number)	Location of Sampling Points
	980	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	1003	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Peterborough	097	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Whyalla	186	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	176	Water tank, water delivery (x2)
	207	Hose, water delivery
	1501	On-board hose reel (driver and passenger), water delivery (driver and passenger)
	203	Water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Pt Lincoln	175	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	212	Hose, water delivery
	1014	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	151	Hose, water delivery
Pt Augusta	206	Hose, water delivery
	172	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	201	Water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
	179	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)
Wallaroo	191	Monitor, water tank, on-board hose reel (driver and passenger), water delivery (driver and passenger)

Table B-2 – Summary of Scope of Works Soil Sampling

Station	No. Soil Sample Collected	Location of Sampling Points
Adelaide	2	Sample one was collected from the southern boundary near a rosemary bush. Sample two was collected from a small vegetation strip in-between buildings and construction.
Gawler	2	Sample one was collected from the east side of the building underneath the orange tree. The second sample was collected from the north side of the building. AFFF has been sprayed in this area.
Elizabeth	2	Sample one was collected from the north-west corner of the site and the second sample was collected from the northern part of the site, directly next to a lime tree. AFFF has been sprayed in this area.
Salisbury	2	Sample one was collected from the southeast vegetable patch and the second sample was collected from the eastside of the shed. Both samples were collected from an area where AFFF has been sprayed.
Golden Grove	2	Sample one was collected on the northern boundary directly next to a lemon tree and the second sample was collected from the southern boundary, south of the carpark. AFFF has been sprayed in this area.
Paradise	2	Sample one was collected from the chicken coup located in the northeast corner of the site. Sample two was collected from the garden located in the northern boundary. AFFF has been sprayed in this area.
Beulah Park	2	Sample one was extracted next to a lemon tree located on the southern boundary. Sample two was collected underneath biota on the northern boundary. AFFF has been sprayed in this area.
Prospect	2	Two samples were collected from the southern side of the MFS Station both near a lime and lemon tree. AFFF has been sprayed in this area.
Angle Park	2	Both samples were collected from the left and right side of the MFS Station in a side strip of vegetation. AFFF has been sprayed in this area.
Angle Park Training Centre	2	Both samples were collected on the northern boundary in an open field containing a dirt track and grass. AFFF has been sprayed in this area.

Station	No. Soil Sample Collected	Location of Sampling Points
Pt Adelaide	2	Both soil samples have been extracted from the south-west corner of the boundary directly in front of the chicken coop. AFFF has been sprayed in this area.
Woodville	2	Sample one was extracted from the northern boundary parallel to a grape tree. Sample two was collected from the south-west boundary next to a tomato bush, peach tree and apple tree. AFFF has been sprayed in this area.
Brooklyn Park	2	Both soil samples were collected from the northern boundary near a nectarine and grape tree. AFFF has been sprayed in this area.
Camden Park	2	Both soil samples was extracted from a small patch of vegetation placed in the middle of the carpark. AFFF has been sprayed in this area.
St Marys	2	One sample was extracted in-between the lemon tree and nectarine tree; the other sample was collected from a small patch of vegetation within the carpark. AFFF has been sprayed in this area.
O'Halloran Hill	2	Both soil samples were collected from the southern boundary on strips of vegetation. AFFF has been sprayed in this area.
Christie Downs	2	One soil sample was collected near a lime tree and apricot tree on the southern boundary. The second sample was extracted from the middle of the eastern boundary. AFFF has been sprayed in this area.
Seaford	2	Sample one was collected from the vegetable patch located towards the northeast of the roller door. Sample two was collected from the chicken coop located east f the building. AFFF has been sprayed in this area.
Victor Harbour	Not Sampled	Not Sampled
Murray Bridge	3	All three soil samples have been collected from the southern side of the MFS Station.
Mt Gambier	2	On the eastern side of the site boundary on both sides of the chicken coop.
Kapunda	2	Both samples were collected within the vegetation approximately 10 m apart.

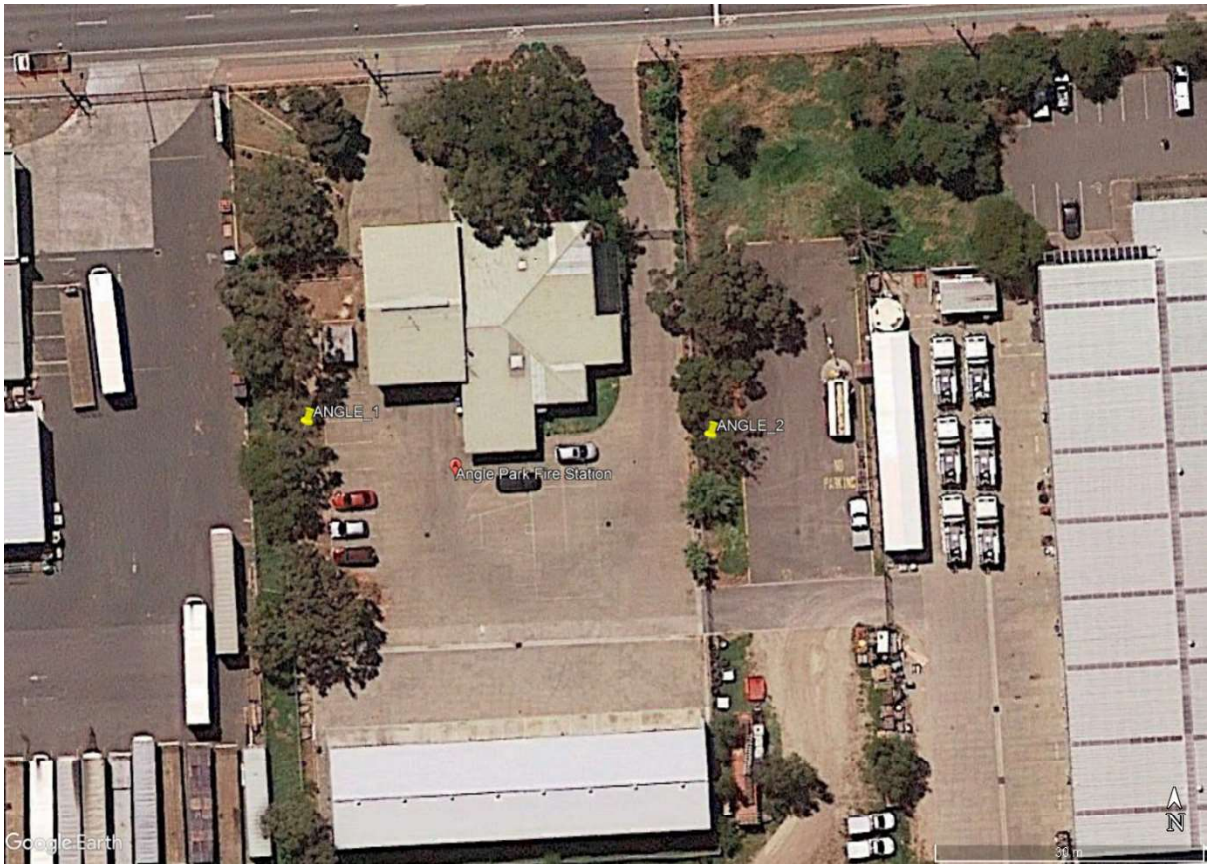
Station	No. Soil Sample Collected	Location of Sampling Points
Tanunda	1	Both samples were collected on the southeast boundary approximately 40 m apart.
Berri	2	Two soil samples were collected from the south-west of the MFS Station – both located on vegetation.
Renmark	2	Two soil samples were collected from the south-west of the MFS Station – both located on vegetation.
Loxton	2	Both soil samples were collected from the northern boundary, on both the left and right hand corner of the MFS Station.
Kadina	2	Both soil samples were extracted from the northern boundary directly in front of the MFS building.
Moonta	2	Both samples were collected from the south side of the boundary located on a patch of soil.
Wallaroo	2	Sample one was collected from the northern boundary directly in front of the building. The second sample was collected from the southern boundary.
Pt Pirie	4	Samples one and two were collected from the west boundary approximately 30 m apart from each other. Samples three and four were collected from the southern boundary approximately 40 m apart.
Peterborough	2	Both samples were extracted from the eastern boundary from a patch of soil.
Whyalla	2	Both samples were collected from the north-eastern corner approximately 20 m apart.
Pt Lincoln	2	Both samples were collected from the western boundary along a small strip of vegetation approximately 20 m.
Pt Augusta	2	Samples one and two were collected from a patch or soil from the southern side of the study area.

Table B-3 - Summary of Scope of Works Biota Sampling

Station	No. Produce Sample Collected	Biota Type
Adelaide	2	Nectarine, rosemary
Gawler	0	
Elizabeth	2	Lime, lemon
Salisbury	0	
Golden Grove	1	Lime
Paradise	0	
Beulah Park	1	Lemon
Prospect	2	Lime, lemon
Angle Park	0	
Angle Park Training Centre	0	
Pt Adelaide	1	Eggs
Woodville	8	Apricot, lemon, lime, peach, nectarine, grape, tomato, apple
Brooklyn Park	2	Grape, nectarine
Camden Park	0	
St Marys	3	Lemon, orange, nectarine
O'Halloran Hill	0	
Christie Beach	2	Lime, apricot
Seaford	0	
Victor Harbour	0	
Murray Bridge	0	

Station	No. Produce Sample Collected	Biota Type
Mt Gambier	11	Eggs, squash, pumpkin, tomato, rosemary, parsley, silverbeet, zucchini, nectarine, plum, mulbury (no fruit)
Kapunda	0	
Tanunda	0	
Berri	0	
Renmark	0	
Loxton	0	
Kadina	0	
Moonta	0	
Wallaroo	0	
Pt Pirie	0	
Peterborough	0	
Whyalla	0	
Pt Lincoln	0	

Appendix C – Field Forms



ANGLE PARK SITE NOTES:

- JC was advised that training with AFFF had occurred on the car park.

- ANGLE_1 was collected from the chicken coup located in the W portion of the site.
- ANGLE_2 was collected in the E portion of the site / directly S of the hydrant. JC confirmed that AFFF sprayed / dumped here.

- Site historically had a lemon tree and potatoes. Removed. Fruit / veg historically consumed by station staff.
- Site previously had chickens. Chickens killed by fox. Eggs historically consumed by staff.

Date:	22-1-19	Diameter:	
Logged By:	Jacinta Kracman	Casing:	
Driller:		Surface Completion:	
Drill Method:		Water Strike:	
TD:		Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

	Geology											Colour											Moisture content				Hardness							CLAY Plasticity			SAND Size			SAND Sorting			SAND Texture		IMPACT			
DEPTH	Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Wet	Moist	Low	Dry	V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	High	Medium	Low	None	Coarse	Medium	Fine	Well sorted	Moderatley well sorted	Poorly Sorted	Loose	Co-Hesive	Odour	Visual - Write in Comments	PID	COMMENTS
0					X											X										X						X			X			X			X		X			ANGLE-2
																																															trace organic matter + gravel, silty Sand, Pale brown
																																															*Sample taken at Surface

Date:	22-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X											X				X																							organic matter (leaves, bark), trace gravel
0.2					X											X										X						X				X						X						silty sand, pale brown, trace organic matter (bark)

Water Sampling Field Sheet

Date:	22/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	Angle Park	Project name: SAMFS PFAS Investigation	
Station Staff Name:	Kevin Holmes	Time entered site: 10.00 AM	Time exit site: 10.45 AM
Position:	Senior Fire Fighter	Site observations:	FIRE TRUCK REGO: SB31HY

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1303	Water Tank	1303_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1303_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1303_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1303_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1303_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1303_H_D		GRAB	Y	N	Clear / Yellow	Med	N

TRAINING CENTER SITE NOTES

- Confirmed historical AFFF use with firefighters

- TRAIN_1 collected on the N side of the property on the fence line, 60m W of internal main road
- TRAIN_2 collected on the N side of the property, 30m W of the hydrant on the internal main road, S side of dirt path/road

- No edible plants grown on site

Date:	25-1-19
Logged By:	Jacinta kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X											X				X																							TRAIN-1
0					X											X										X					X									X	X		X					dry grass + remnant gravel (scraped away)...
																																																	* sample taken at surface
																																																	Silty sand

Date:	25-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
																																																		TRAIN-2
0											X																																						dry grass + trace gravel (Scraped away --->)
0					X											X									X					X					X			X			X	X					Silty Sand * Sample taken at surface

Water Sampling Field Sheet

Date:	25/01/2019	Job no: 3319080	
Logged by:	Jacinta Kracman	Client: MFS	
Station name:	ANGLE PARK ENGINEERING	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 8.30 AM	Time exit site: 10.30 AM
Position:		Site observations:	FIRE TRUCK REGO: VGD435

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	163	Water Tank	163_WT		DISP. Bail	NA	Y	Orange (Rust)	Med.	Y - dirt (med.)
		Monitor	163_Monitor		GRAB	Y	N	Clear / Orange	High	N
		Water delivery - PASSENGER	163_WD_P		GRAB	Y	N	Brown / Orange	Med.	N
		Water delivery - DRIVER	163_WD_D		GRAB	Y	N	Brown/ Orange	Med.	N
		On Board Hose Reel - PASSENGER	163_H_P		GRAB	Y	N	Clear / Orange	Med	N
		On Board Hose Reel - DRIVER	163_H_D		GRAB	Y	N	Clear / Orange	Med	N

Water Sampling Field Sheet

Date:	25/01/2019	Job no: 3319080	
Logged by:	Jacinta Kracman	Client: MFS	
Station name:	ANGLE PARK ENGINEERING	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 8.30 AM	Time exit site: 10.30 AM
Position:		Site observations:	FIRE TRUCK REGO: VHD985

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	164	Water Tank	164_WT		DISP. Bail	NA	Y	Orange (Rust)	Med.	Y - dirt (med.)
		Monitor	164_Monitor		GRAB	Y	N	Clear / Orange	High	N
		Water delivery - PASSENGER	164_WD_P		GRAB	Y	N	Brown / Orange	Med.	N
		Water delivery - DRIVER	164_WD_D		GRAB	Y	N	Brown/ Orange	Med.	N
		On Board Hose Reel - PASSENGER	164_H_P		GRAB	Y	N	Clear / Orange	Med	N
		On Board Hose Reel - DRIVER	164_H_D		GRAB	Y	N	Clear / Orange	Med	N

Water Sampling Field Sheet

Date:	25/01/2019	Job no: 3319080	
Logged by:	Jacinta Kracman	Client: MFS	
Station name:	ANGLE PARK ENGINEERING	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 8.30 AM	Time exit site: 10.30 AM
Position:		Site observations:	FIRE TRUCK REGO: WPX362

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
CAPA	189	Water Tank	189_WT		DISP. Bail	NA	Y	Orange (Rust)	Med.	Y - dirt (med.)
		Monitor	189_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	189_WD_P		GRAB	Y	N	Brown / Orange	Med.	N
		Water delivery - DRIVER	189_WD_D		GRAB	Y	N	Brown/ Orange	Med.	N
		On Board Hose Reel - PASSENGER	189_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	189_H_D		GRAB	Y	N	Clear / Yellow	Med	N

Water Sampling Field Sheet

Date:	25/01/2019	Job no: 3319080	
Logged by:	Jacinta Kracman	Client: MFS	
Station name:	ANGLE PARK ENGINEERING	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 8.30 AM	Time exit site: 10.30 AM
Position:		Site observations:	FIRE TRUCK REGO: WFX843

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	194	Water Tank	194_WT		DISP. Bail	NA	Y	Orange (Rust)	Med.	Y - dirt (med.)
		Monitor	194_Monitor		GRAB	Y	N	Clear / Orange	High	N
		Water delivery - PASSENGER	194_WD_P		GRAB	Y	N	Brown / Orange	Med.	N
		Water delivery - DRIVER	194_WD_D		GRAB	Y	N	Brown/ Orange	Med.	N
		On Board Hose Reel - PASSENGER	194_H_P		GRAB	Y	N	Clear / Orange	Med	N
		On Board Hose Reel - DRIVER	194_H_D		GRAB	Y	N	Clear / Orange	Med	N

BEULAH PARK SITE NOTES:

- JC was advised that training with AFFF has historically occured on site.

- BEULAH_1 was collected from the veg patch located on the W boundary of the site / W of the NW cnr of the carport.
- BEULAH_2 was collected from the garden in the N portion of the site / N of the Basketball ring / next to the drain.

- 1 x fruit trees (1 x lemon). No fruit. No sample.
- Herb / veg patch. No samples taken.
- No chickens.

Date: 22-1-19 | Diameter:

Logged By: Jacinta Kracman | Casing:

Driller: | Surface Completion:

Drill Method: | Water Strike:

TD: | Walter Level Final:

Job No: 3319080 Client: SAMFS Project Name:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

BEULAH-2

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X											X																												Organic matter
0.2					X											X								X			X								X				X	X			X					Silty sand

COMMENTS

Date:	22-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 339080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X					X							X			X										X			X		X	X							Sandy silt, trace organic matter
0.2					X											X							X			X										X			X	X			X						Silty sand

Water Sampling Field Sheet

Date:	22/01/2019	Job no: 3319080	
Logged by:	Joel Chance / Jacinta Kracman	Client: MFS	
Station name:	Beulah Park	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 4.00 PM	Time exit site: 5.00 PM
Position:		Site observations:	FIRE TRUCK REGO: WSV740

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	Fleet no.	Location of Sample *Monitor, Water Tank, Water deliveries*	Sample ID *Fleetno._Location C1234_WaterTank*	Duplicate Label *(If sampled) FD01_Initials*	Sampling method *grab, bucket*	Water recirculation through pumps?	Observations			
							Odour	Colour	Turbidity	Sediment
9 - GP	080	Water Tank	080_WT		DISP. Bail	NA	Y - Chemical	Orange (Rust)	Med.	Y - dirt (med.)
		Monitor	080_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	080_WD_P		GRAB	Y	Y - Chemical	Brown / Orange	Med.	N
		Water delivery - DRIVER	080_WD_D		GRAB	Y	Y - Chemical	Brown/ Orange	Med.	N
		On Board Hose Reel - PASSENGER	080_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	080_H_D		GRAB	Y	N	Clear / Yellow	Med	N

PLEASE NOTE:
080 is a replacement truck from Angle Park Engineering.
Beulah Park's truck was in for service at Angle Park Engineering at time of environmental investigation.

CAMDEN PARK SITE NOTES

- CAMDEN_1 collected at the SW corner of the building on a very small patch of dirt
- CAMDEN_2 collected just S of a large tree on the larger patch of dirt, close to vehicle parking

- Small garden
- No edible plants grown on site

Date: 22-1-19 | Diameter:

Logged By: Jacinta Kracman | Casing:

Driller: | Surface Completion:

Drill Method: | Water Strike:

TD: | Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X											X				X										X			X										Organic matter (bark, leaves)
0.1											X					X										X	X									X			X		X		X						Sandy silt, thin layer above concrete base

CAMDEN-1	

Date:	22-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X											X				X																								Organic matter (sticks, leaves)
0.2					X											X										X	X									X			X		X		X						Silty sand, very loose, trace organics (+ roots)

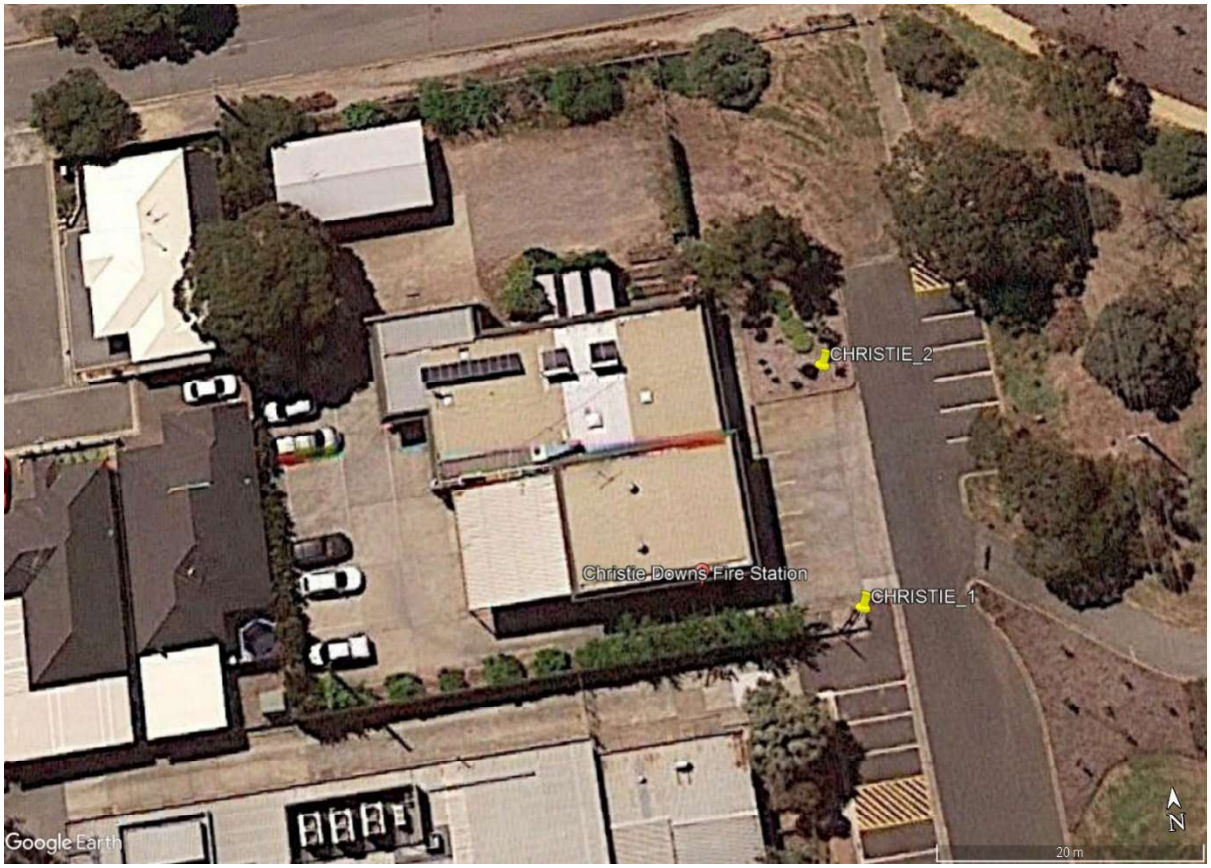
CAMDEN-2

Water Sampling Field Sheet

Date:	24/01/2019	Job no: 3319080	
Logged by:	Jacinta Kracman	Client: MFS	
Station name:	CAMDEN	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 4.00 PM	Time exit site: 5.00 PM
Position:		Site observations:	FIRE TRUCK REGO: SB39CN

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
CAPA	1009	Water Tank	1009_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1009_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1009_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1009_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1009_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1009_H_D		GRAB	Y	N	Clear / Yellow	Med	N



CHRISTIE DOWNS HILL SITE NOTES:

- Firefighters advised that training with AFFF had occurred on the car park.

- CHRISTIE_1 was collected from the garden located in SE cnr of the site / next to theletterbox / sign.
- CHRISTIE_2 was collected from garden located in the NE cnr of the site.

- Multiple fruit trees located along S boundary of site. 2 x samples (CHRISTIE_LIME andCHRISTIE_APRICOT). Fruit historically consumed by station staff.
- No further fruit trees and / or chickens.

Date:	21-1-19
Logged By:	Joel Chance
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V. Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X										X				X										X														bark/mulch, no odour
0.2			X																		X				X			X						X				X											Sandy Clay, stiff, dark brown, no odour, stiff

Water Sampling Field Sheet

Date: 21/01/2019	Job no: 3319080
Logged by: Joel Chance	Client: MFS
Station name: CHRISTIE DOWNS	Project name: SAMFS PFAS Investigation
Station Staff Name:	Time entered site: 5.45 PM Time exit site: 7.00 PM
Position:	Site observations: FIRE TRUCK REGO: SB17LR Fire truck 2 years old

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
CAPA	1603	Water Tank	1603_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1603_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1603_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1603_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1603_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1603_H_D		GRAB	Y	N	Clear / Yellow	Med	N

Water Sampling Field Sheet

Date:	21/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	CHRISTIE DOWNS	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 5.45 PM	Time exit site: 7.00 PM
Position:		Site observations: FIRE TRUCK REGO: SB03NT	Fire truck 1 year old

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1702	Water Tank	1702_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1702_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1702_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1702_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1702_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1702_H_D		GRAB	Y	N	Clear / Yellow	Med	N

ELIZABETH SITE NOTES:

- JC advised that AFFF has been sprayed on site for training purposes.

- ELIZABETH_1 was collected from the NW cnr of the site / W of the carport. JC advised that AFFF likely collected and evaporated on open soil NW of the site as the site slopes to the NW.
- ELIZABETH_2 was collected from the garden in the N portion of the site / W of the garden setting / NE cnr of the carport.

- 2 x fruit trees (1 x lemon and 1 x lime). 2 X samples (ELIZABETH_LIME and ELIZABETH_LEMON).
- No chickens. JC advised that site previously had chickens for approximately 12 months. Eggs historically consumed by station staff.

Date:	22-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
																																																	ELIZABETH-2	
0					X											X									X		X									X					X		X	X					Silty sand, pale brown
0.2					X											X								X			X									X					X		X	X					"

Date:	22-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderately well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0					X											X										X	X									X							X							trace gravel + stone *Sample taken at surface

ELIZABETH-1	

Water Sampling Field Sheet

Date:	22/01/2019	Job no: 3319080	
Logged by:	Joel Chance / Jacinta Kracman	Client: MFS	
Station name:	ELIZABETH	Project name: SAMFS PFAS Investigation	
Station Staff Name:	Brendan Ryan	Time entered site: 2.00 PM	Time exit site: 3.30 PM
Position:	Senior Fire Fighter	Site observations:	FIRE TRUCK REGO: WSV740

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	Fleet no.	Location of Sample *Monitor, Water Tank, Water deliveries*	Sample ID *Fleetno._Location C1234_WaterTank*	Duplicate Label *(If sampled) FD01_Initials*	Sampling method *grab, bucket*	Water recirculation through pumps?	Observations			
							Odour	Colour	Turbidity	Sediment
9 - GP	193	Water Tank	193_WT		DISP. Bail	NA	Y - Chemical	Orange (Rust)	Med.	Y - dirt (med.)
		Monitor	193_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	193_WD_P		GRAB	Y	Y - Chemical	Brown / Orange	Med.	N
		Water delivery - DRIVER	193_WD_D		GRAB	Y	Y - Chemical	Brown/ Orange	Med.	N
		On Board Hose Reel - PASSENGER	193_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	193_H_D		GRAB	Y	N	Clear / Yellow	Med	N

PLEASE NOTE:
193 is a replacement truck from Angle Park Engineering.
Elizabeth's truck was in for service at Angle Park Engineering at time of environmental investigation.

Water Sampling Field Sheet

Date:	22/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	ELIZABETH	Project name: SAMFS PFAS Investigation	
Station Staff Name:	Brendan Ryan	Time entered site: 2.00 PM	Time exit site: 3.30 PM
Position:	Senior Fire Fighter	Site observations:	FIRE TRUCK REGO: SB46FG

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
CAPA	1103	Water Tank	1103_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1103_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1103_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1103_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1103_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1103_H_D		GRAB	Y	N	Clear / Yellow	Med	N

GAWLER SITE NOTES:

- Station Officer, Andrew Geytenbeek, advised that AFFF hasn't been sprayed on site.

- GAWLER_1 was collected from the east side of the site/building / under the Orange tree.
- GAWLER_2 was collected from the north side of the building / garden west of the enquiries door.

- The Orange tree had no fruit. Fruit from the tree, however, has been historically consumed.
- No further fruit trees and / or chickens.

Date:	21-1-19
Logged By:	Joel Chance
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X						X									X						X				X						X								Organic matter cover
0.2											X											X		X		X									X				X	X									loam, potting mix, silty clay, dark brown, no odour

GAWLER-1
QA01

Date: 21-1-19	Diameter:
Logged By: Joel Chance	Casing:
Driller:	Surface Completion:
Drill Method:	Water Strike:
TD:	Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V. Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0				X												X										X						X			X			X			X								Silty sand, trace organic matter, no odour, dry
0.2				X												X										X						X			X			X			X								

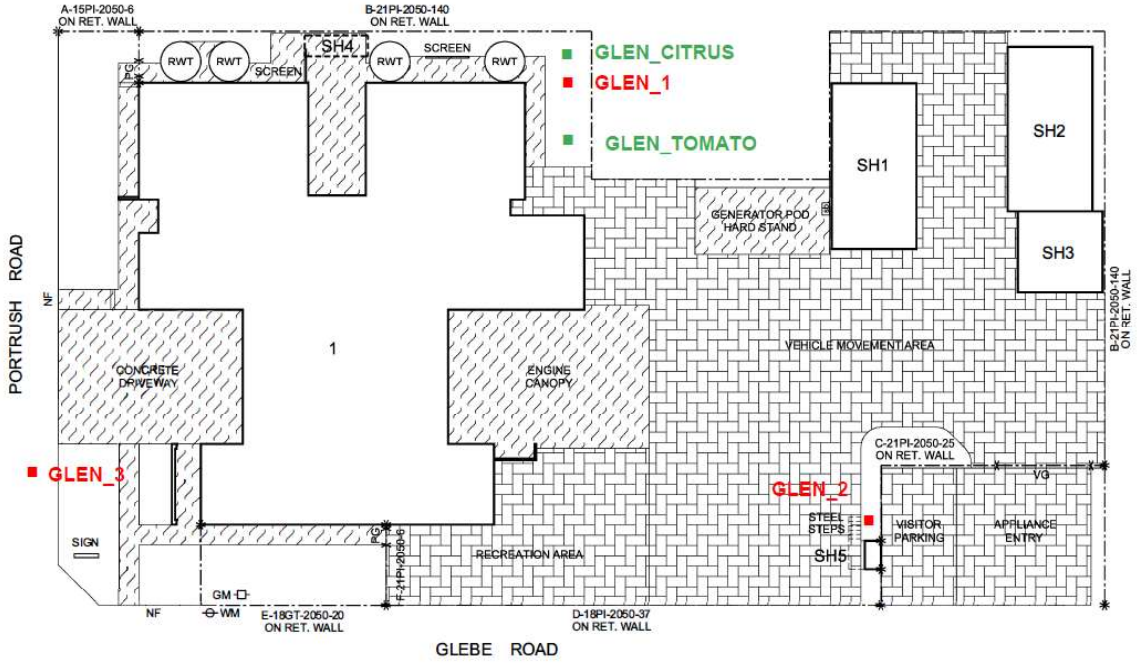
Water Sampling Field Sheet

Date:	21/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	GAWLER	Project name: SAMFS PFAS Investigation	
Station Staff Name:	Andrew Geytenbeek	Time entered site: 10.30 AM	Time exit site: 11.30 AM
Position:	Station Officer	Site observations:	FIRE TRUCK REGO: SB32HY

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1304	Water Tank	1304_WT		DISP. Bail	NA	Y - Chemical	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1304_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1304_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1304_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1304_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1304_H_D		GRAB	Y	N	Clear / Yellow	Med	N

Glen Osmond



- Appliance: 1703, very new
- Station also new, major earth works since renovation so no AFFF use since
- Prior to renovations AFFF was used around centre and South East corner of property
- Biota: samples from NE corner of station close to the building. Tomato from raised garden bed and Citrus from in-ground garden bed
- Extra water sample taken from oil separator, which collects drain runoff and is used to water garden. Not many stations have this anymore.

Soil Samples

- GLEN_1: in garden bed where citrus was collected, NE side of building, abundant organics on surface (leaves and moss)
- GLEN_2: near central station area (E of open concrete), abundant organics at surface (leaves), sample taken at surface due to hardness beneath
- GLEN_3: front of property, SE corner, central to old station where AFFF use most likely to occur, abundant organics (leaves)

GOLDEN GROVE SITE NOTES:

- JC was advised that AFFF has been sprayed on site for training purposes.

- GOLDEN GROVE_1 was collected from the garden located in the N portion of the site / W of the carport on the NE side of the site / below the lime tree.
- GOLDEN GROVE_2 was collected from garden located in the S portion of the site / E of the gate

- The lime tree had fruit. JC collected sample (GoldenGrove_Lime).
- No further fruit trees and / or chickens.

Date: 21-1-19 | Diameter:

Logged By: Joel Chance | Casing:

Driller: | Surface Completion:

Drill Method: | Water Strike:

TD: | Walter Level Final:

Job No: 3319080 Client: SAMFS Project Name:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

	Geology											Colour											Moisture content				Hardness							CLAY Plasticity				SAND Size			SAND Sorting				Texture		IMPACT				
DEPTH	Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Wet	Moist	Low	Dry	V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	High	Medium	Low	None	Coarse	Medium	Fine	Well sorted	Moderatley well sorted	Poorly Sorted	Loose	Co-Hesive	Odour	Visual - Write in Comments	PID	COMMENTS
0					X										X										X	X									X			X			X						GOLDENGROVE-2
0.2					X												X							X	X									X			X			X						Silty sand, dry, no odour, trace organic matter
																																																"

Date: 21-1-19 | Diameter:

Logged By: Joel Chance | Casing:

Driller: | Surface Completion:

Drill Method: | Water Strike:

TD: | Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X																																								mulch, bark
0.2					X							X													X						X				X			X			X									Silty sand, no odour, dry, trace organic matter

COMPANY: GOLDENGROVE-1

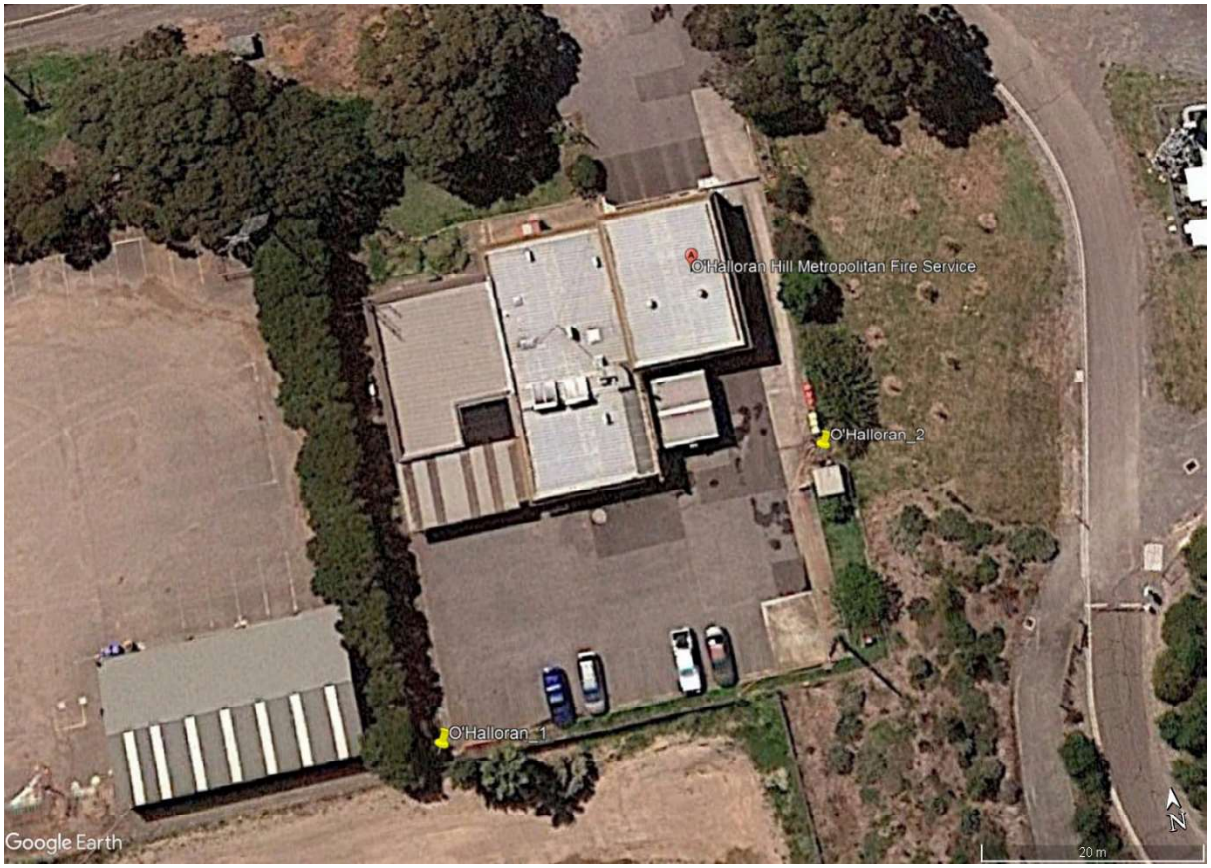
COMMENTS

Water Sampling Field Sheet

Date:	21/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	GOLDEN GROVE	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 1.30 PM	Time exit site: 2.45 PM
Position:		Site observations: FIRE TRUCK REGO: SB02NT 1701 delivered in OCT 2018	

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1701	Water Tank	1701_WT		DISP. Bail	NA	N	Clear / Yellow)	Med.	N
		Monitor	1701_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1701_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1701_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1701_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1701_H_D		GRAB	Y	N	Clear / Yellow	Med	N



O'HALLORAN HILL SITE NOTES:

- JC advised that AFFF has been sprayed on site for training purposes.

- O'HALLORAN_1 was collected from the garden located in the SW cnr of the site.
- O'HALLORAN_2 was collected from garden located in the E portion of the site / N of the transportable building.

- 2 x fruit trees (apricot and orange). No fruit. Fruit historically consumed by station staff.
- No further fruit trees and / or chickens.

Date: 21-1-19

Logged By: Joel Chance

Driller:

Drill Method:

TD:

Diameter:

Casing:

Surface Completion:

Water Strike:

Walter Level Final:

Job No: 3319080 Client: SAMFS

Project Name:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	SAND Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X											X				X						X				X						X								litter, organic matter
0.2											X					X									X						X				X						X								silty sand with clay, pale brown, no odour, trace organic matter

O'HALLORAN-2	

Date: 21-1-19
Logged By: Joel Chance
Driller:
Drill Method:
TD:

Diameter:
Casing:
Surface Completion:
Water Strike:
Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS

Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X											X			X						X				X						X							Pine needles, gravel, litter
0.2								X				X			X										X						X				X			X			X							Silty gravel, no odour, gravel rocks, fine sand

O'HALLORAN-1

Water Sampling Field Sheet

Date:	21/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	O'HALLORAN HILL	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 5.00 PM	Time exit site: 5.30 PM
Position:		Site observations:	FIRE TRUCK REGO: SB54DM

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1002	Water Tank	1002_WT		DISP. Bail	NA	N	Clear / Yellow)	Med.	N
		Monitor	1002_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1002_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1002_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1002_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1002_H_D		GRAB	Y	N	Clear / Yellow	Med	N

PARADISE SITE NOTES:

- Firefighters advised that training with AFFF had occurred on the car park.

- PARADISE_1 was collected from the chicken coup located in the NE cnr of the site.
- PARADISE_2 was collected from garden located in the N portion of the site / S of the chicken coup, no eggs present. JC confirmed that AFFF had been sprayed at this location.

- 4 x chickens. 18 months old. Eggs consumed by station staff. No eggs were present to be collected for analysis.
- 4 x fruit trees (peach, nectarine, apricot and plum). No fruit was available to be collected for analysis. Historically consumed by station staff.

Date:	21-1-19
Logged By:	Joel Chance
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

	Geology											Colour											Moisture content				Hardness							CLAY Plasticity				SAND Size			SAND Sorting			SAND Texture		IMPACT			
DEPTH	Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Wet	Moist	Low	Dry	V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	High	Medium	Low	None	Coarse	Medium	Fine	Well sorted	Moderatley well sorted	Poorly Sorted	Loose	Co-Hesive	Odour	Visual - Write in Comments	PID	COMMENTS
0											X																																					mulch, bark, no odour.
0.2					X											X									X						X				X			X			X						Silty sand, trace organic matter, no odour, dry

Date:	21-1-19
Logged By:	Joel Chance
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
																																																		PARADISE-1
0					X											X									X						X				X			X			X							Silty Sand, no odour, dry,
0.2					X											X									X						X				X			X			X							trace organics + chicken faeces
																																																	"

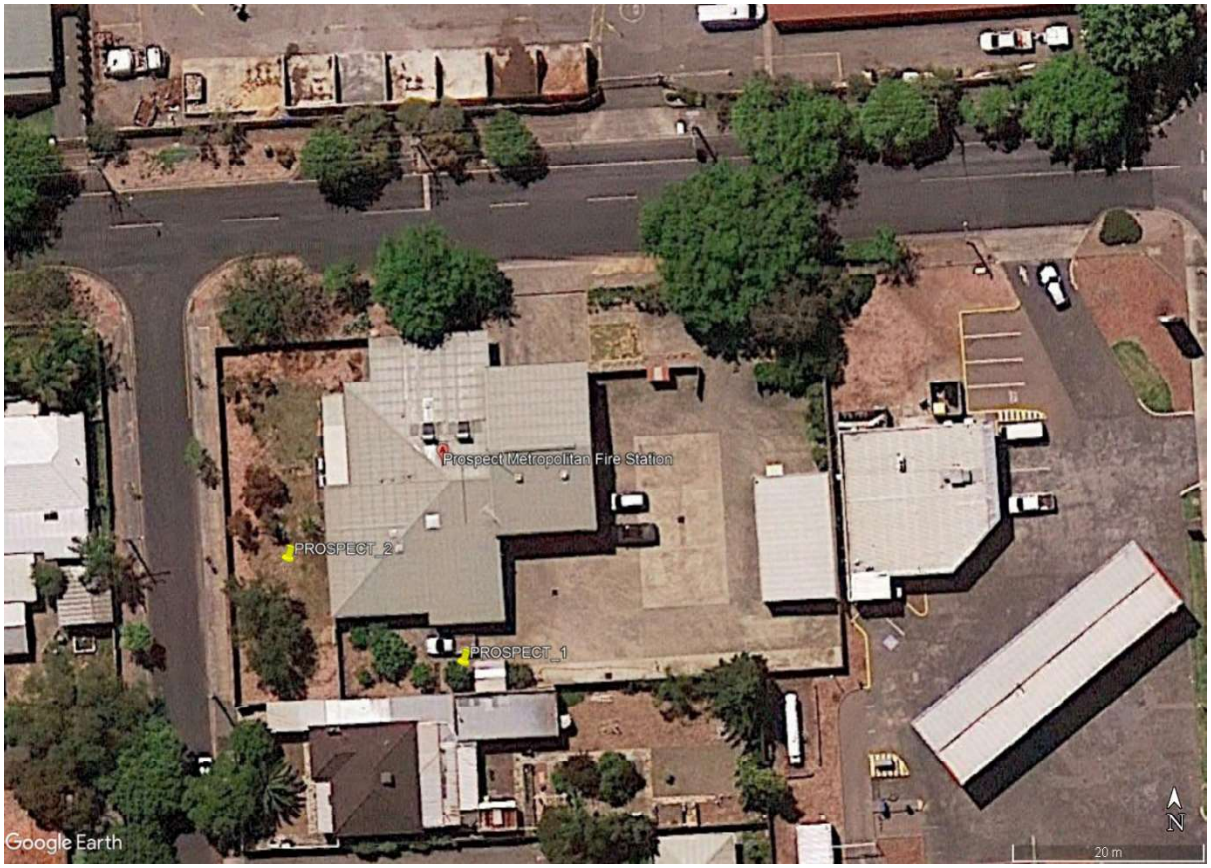
PID	COMMENTS
	PARADISE-1
	Silty Sand, no odour, dry,
	trace organics + chicken faeces
	"

Water Sampling Field Sheet

Date:	21/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	PARADISE	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 3.15 PM	Time exit site: 4.15 PM
Position:		Site observations:	FIRE TRUCK REGO: SB33HY

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1305	Water Tank	1305_WT		DISP. Bail	NA	Y - Chemical	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1305_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1305_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1305_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1305_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1305_H_D		GRAB	Y	N	Clear / Yellow	Med	N



PROSPECT SITE NOTES:

- JC advised that AFFF has been sprayed on site for training purposes.

- PROSPECT_1 was collected from the S portion of the site / directly W of shed / under lime tree.
- PROSPECT_2 was collected W of the building in the vacant block.

- 3 x fruit trees (2 x lime and 1 x lemon) located at site. 2 x samples (PROSPECT_LIME and PROSPECT_LEMON). Fruit historically consumed by station staff.
- No chickens.

Date:	22-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
																																																		PROSPECT-1
0											x											x				x																									Organic matter (bark, mulch)
0.1		x																				x				x						x			x			x				x	x		x			medium-dark brown, fine sand, trace organics, organic decomposing odour

Date:	22-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	

Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
																																																		PROSPECT-2
0					X											X										X	X									X			X	X	X							Silty sand, no odour, trace organics
0.2											X					X										X	X									X			X			X	X						Sandy silt, trace gravel, no odour

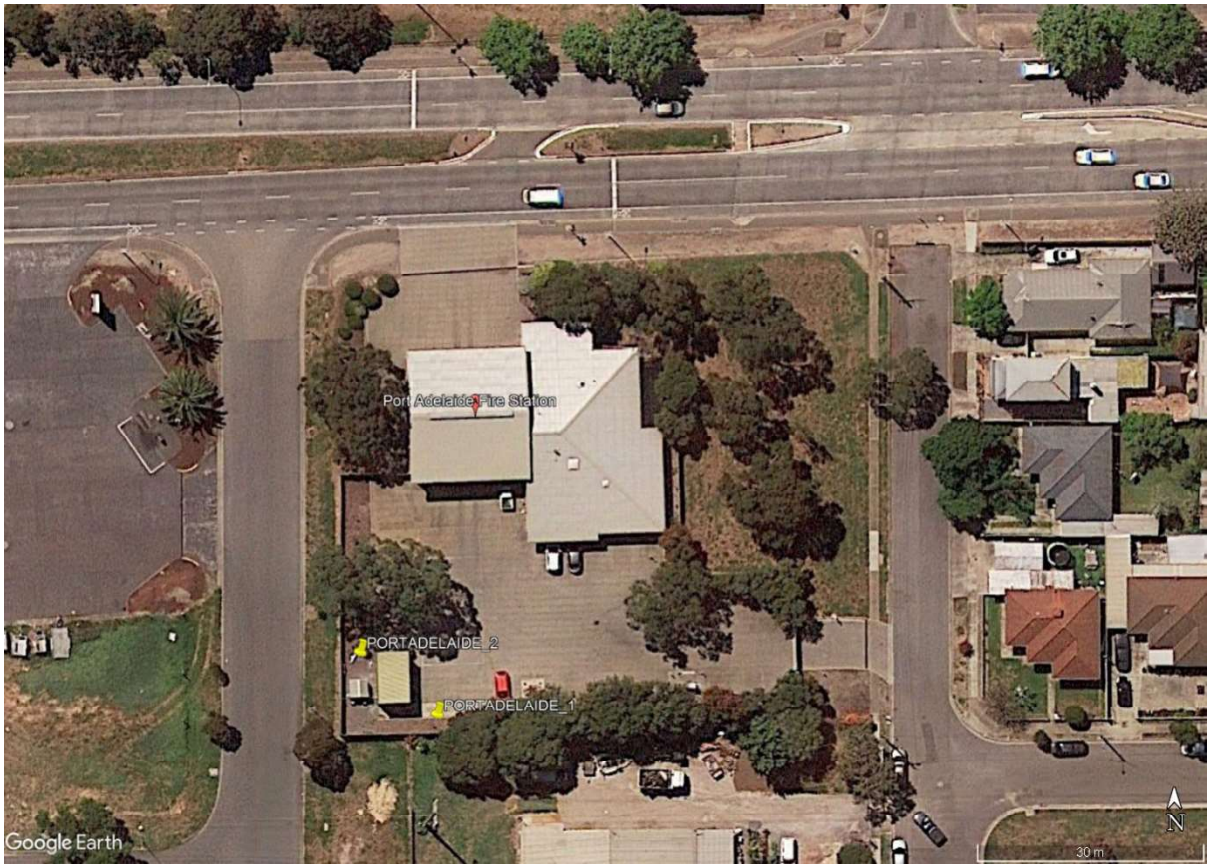
Water Sampling Field Sheet

Date:	22/01/2019	Job no: 3319080	
Logged by:	Joel Chance / Jacinta Kracman	Client: MFS	
Station name:	PROSPECT	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 8.30 AM	Time exit site: 9.15 AM
Position:		Site observations:	FIRE TRUCK REGO: XFW052

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	081	Water Tank	081_WT		DISP. Bail	NA	Y	Orange (Rust)	Med.	Y - dirt (med.)
		Monitor	081_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	081_WD_P		GRAB	Y	N	Brown / Orange	Med.	N
		Water delivery - DRIVER	081_WD_D		GRAB	Y	N	Brown/ Orange	Med.	N
		On Board Hose Reel - PASSENGER	081_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	081_H_D		GRAB	Y	N	Clear / Yellow	Med	N

PLEASE NOTE:
081 is a replacement truck from Angle Park Engineering.
Prospect's truck was in for service at Angle Park Engineering at time of environmental investigation.



PORT ADELAIDE SITE NOTES:

- Firefighters advised that training with AFFF had occurred on the car park.

- PORTADELAIDE_1 was collected from the southern garden.
- PORT ADELAIDE_2 was collected in the chicken coup located in the western portionof the site.

- No fruit trees.
- 4 X chickens (12 – 18 months old). Eggs consumed by staff. 10 x eggs collected.ĚPORTADELAIDE_EGGS.

Date: 22-1-19 | Diameter:

Logged By: Jacinta Krachman | Casing:

Driller: | Surface Completion:

Drill Method: | Water Strike:

TD: | Walter Level Final:

Job No: 3319080 Client: SAMFS Project Name:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0										X											X				X																									mulch, bark, trace vege. scraps
0.2										X											X			X		X									X			X	X	X								Sandy silt, medium brown, trace organics

PORTADELAIDE-2	

Date: 22-1-19 | Diameter:

Logged By: Jacinta Kracman | Casing:

Driller: | Surface Completion:

Drill Method: | Water Strike:

TD: | Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X											X				X																								Organic matter (mulch, bark) + trace gravel
0.2											X				X										X					X				X					X		X	X					Sandy Silt, pale brown, trace organic, trace gravel

PORTADELAIDE_1

Water Sampling Field Sheet

Date:	22/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	PORT ADELAIDE	Project name: SAMFS PFAS Investigation	
Station Staff Name:	John Jarman	Time entered site: 11.00 AM	Time exit site: 11.45 AM
Position:	Station Officer	Site observations:	FIRE TRUCK REGO: SB29HY

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	Fleet no.	Location of Sample *Monitor, Water Tank, Water deliveries*	Sample ID *Fleetno._Location C1234_WaterTank*	Duplicate Label *(If sampled) FD01_Initials*	Sampling method *grab, bucket*	Water recirculation through pumps?	Observations			
							Odour	Colour	Turbidity	Sediment
9 - GP	1301	Water Tank	1301_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1301_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1301_WD_P		GRAB	Y	Y - Chemical	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1301_WD_D		GRAB	Y	Y- Chemical	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1301_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1301_H_D		GRAB	Y	N	Clear / Yellow	Med	N

PLEASE NOTE:
John Jarman advised that a 2nd fire truck is generally stored at the site. The 2nd truck, however, is only used by Gallantry staff.
Truck not available to sample.

SALISBURY SITE NOTES:

- Firefighters advised that training with foam (fluorine free) had occurred on the car park.

- SALISBURY_1 was collected from the veg patch / SE of the canopy
- SALISBURY_2 was collected from garden located SE of the site / E of the shed locatedin the SE cnr of the site.

- The veg patch had no produce. Veg from the patch, however, has been historically consumed.
- No further fruit trees and / or chickens.

Date: 21-1-19
Logged By: Joel Chance
Driller:
Drill Method:
TD:

Diameter:
Casing:
Surface Completion:
Water Strike:
Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS

Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0					X												X								X		X								X							X						SAISBURY_1
0.2					X												X								X		X								X							X						Silty sand, yellow-brown, trace organic matter, no odour
																																																"

SAISBURY_1

Date: 21-1-19
Logged By: Joel Chance
Driller:
Drill Method:
TD:

Diameter:
Casing:
Surface Completion:
Water Strike:
Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Creyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	Other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	SAND Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X																																							mulch, bark
0.2											X							X						X		X									X			X			X							Sandy silt, yellow-brown, no odour

COMMENTS
SALISBURY-2

Water Sampling Field Sheet

Date: 21/01/2019	Job no: 3319080
Logged by: Joel Chance	Client: MFS
Station name: SALISBURY	Project name: SAMFS PFAS Investigation
Station Staff Name:	Time entered site: 11.50 AM Time exit site: 12.45 PM
Position:	Site observations: FIRE TRUCK REGO: XCE042

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
14 - ROSA	204	Water Tank	204_WT		DISP. Bail	NA	Y - chemical	Orange (Rust)	High	Y
		Deck Branch - DRIVER	204_DB_D		GRAB	Y	Y - Chemical	Orange (Rust)	High	Y
		Water delivery - PASSENGER	204_WD_P		GRAB	Y	Y - chemical	Orange (Rust)	High	Y
		Fixed Hose Reel - On Board - PASSENGER	204_FHR_P		GRAB	Y	Y - chemical	Orange (Rust)	High	Y

Water Sampling Field Sheet

Date: 21/01/2019	Job no: 3319080
Logged by: Joel Chance	Client: MFS
Station name: SALISBURY	Project name: SAMFS PFAS Investigation
Station Staff Name:	Time entered site: 11.50 AM Time exit site: 12.45 PM
Position:	Site observations: FIRE TRUCK REGO: SB68DO

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1006	Water Tank	1006_WT		DISP. Bail	NA	N	Clear / Yellow)	Med.	Y - dirt (low)
		Monitor	1006_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1006_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1006_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1006_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1006_H_D		GRAB	Y	N	Clear / Yellow	Med	N

Water Sampling Field Sheet

Date:	21/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	SALISBURY	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 11.50 AM	Time exit site: 12.45 PM
Position:		Site observations:	FIRE TRUCK REGO: SB05NT

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1704	Water Tank	1704_WT		DISP. Bail	NA	N	Orange (Rust)	Med.	Y - dirt (low)
		Monitor	1704_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1704_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1704_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1704_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1704_H_D		GRAB	Y	N	Clear / Yellow	Med	N

SEAFORD SITE NOTES:

- Firefighters advised that training with foam (fluorine free) had occurred on the car park.

- SEAFORD_1 was collected from the veg patch located in NE of roller door / canopy.
- SEAFORD_2 was collected from chicken coup located E of the building.

- Multiple fruit trees located at site. No fruit. Fruit historically consumed by stationstaff.
- 4 x chickens. Eggs consumed by staff. No eggs present at time of sampling for collection.

Date: 21-1-19
Logged By: Joel Chance
Driller:
Drill Method:
TD:

Diameter:
Casing:
Surface Completion:
Water Strike:
Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Claycy Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
SEAFORD-1																																																		
0											X																																							
0.2			X																			X	X				X							X				X	X									

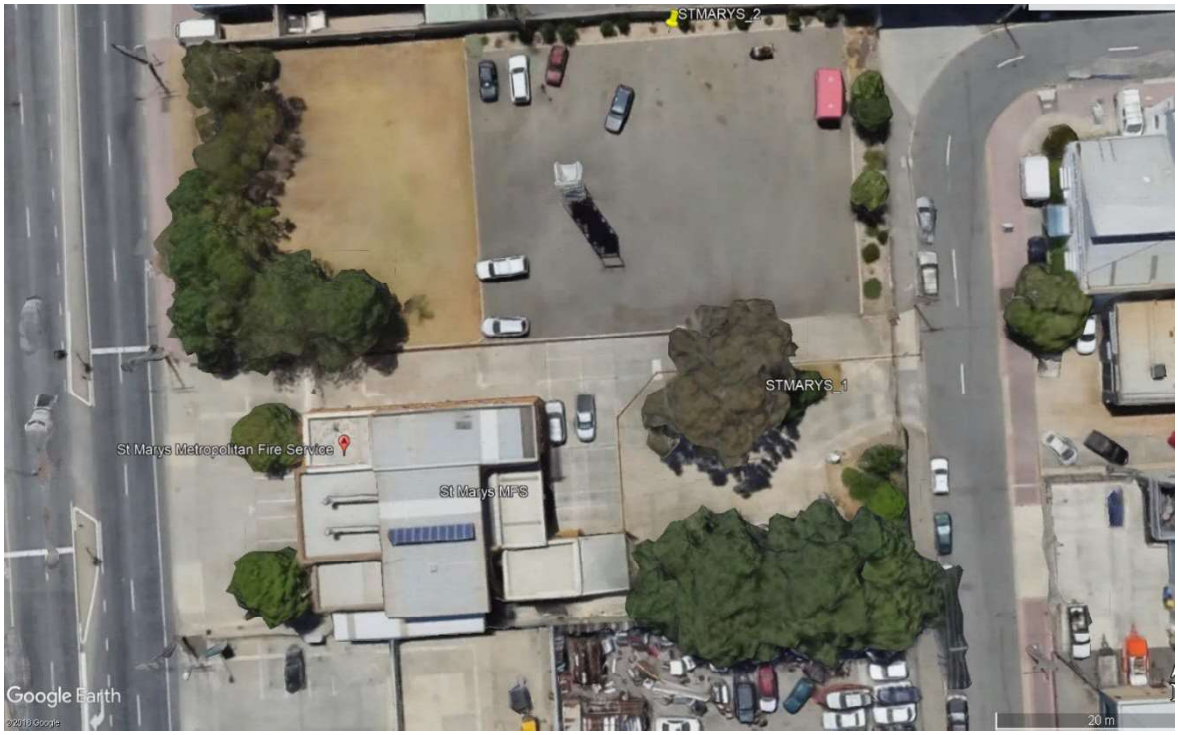
COMMENTS
Pea Straw
Sandy clay, dark brown/orange mottle, moist, no odour

Water Sampling Field Sheet

Date: 21/01/2019	Job no: 3319080
Logged by: Joel Chance	Client: MFS
Station name: SEAFORD	Project name: SAMFS PFAS Investigation
Station Staff Name:	Time entered site: 7.15 PM Time exit site: 8.00 PM
Position:	Site observations: FIRE TRUCK REGO: SB53DM

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1001	Water Tank	1001_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1001_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1001_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1001WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1001_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1001_H_D		GRAB	Y	N	Clear / Yellow	Med	N



ST MARY'S SITE NOTES

- Oldest station in Adelaide
- Confirmed historical AFFF use during drills across the entire concrete area of property
- Spoke to Scott

- STMARYS_1 taken from center of property, E of gumtree/ hydrant, W of nectarine tree
- STMARYS_2 taken from far N boundary of property, halfway along the fence, W of large bush/tall silver structure of neighboring property

- Small garden
- Fruit trees: lemon x1, orange x1, nectarine x1 (samples taken), peach x1 (no fruit no sample)

Date:	23-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X				X										X	X																								Very loose mulch, trace organics (leaves, fruit)
0-1					X										X										X			X						X		X				X	X							Silty Sand

PID

ST MARYS - 1	

COMMENTS

Date: 23-1-19 | Diameter:

Logged By: Jacinta Kracman | Casing:

Driller: | Surface Completion:

Drill Method: | Water Strike:

TD: | Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	SAND Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											X					X									X	X	X								X							X	X					STMARYS-2
0.2					X											X									X					X					X						X		X					mulch, remnant bark, glass, gravel
																																																		silty sand, hard (crumbles easily)

PID

COMMENTS

Water Sampling Field Sheet

Date:	24/01/2019	Job no: 3319080	
Logged by:	Jacinta Kracman	Client: MFS	
Station name:	ST MARY's	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 5.30 PM	Time exit site: 6.00 PM
Position:		Site observations:	FIRE TRUCK REGO: SB07NT

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
CAPA	1706	Water Tank	1706_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1706_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1706_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1706_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1706_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1706_H_D		GRAB	Y	N	Clear / Yellow	Med	N

VICTOR HARBOR SITE NOTES:

- JC was advised that AFFF has been sprayed on site for training purposes.

- No soil samples were collected for analysis at the Victor Harbor station as there was no open soil / garden at the site at the time of sampling.
- No fruit trees.
- No chickens.

Water Sampling Field Sheet

Date:	23/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	VICOR HARBOR	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 8.00 AM	Time exit site: 11.00 AM
Position:		Site observations:	FIRE TRUCK REGO: XJP470

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	087	Water Tank	087_WT		DISP. Bail	NA	Y - Chemical	Orange (Rust)	Med.	Y - dirt (med.)
		Monitor	087_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	087_WD_P		GRAB	Y	Y - Chemical	Brown / Orange	Med.	N
		Water delivery - DRIVER	087_WD_D		GRAB	Y	Y - Chemical	Brown/ Orange	Med.	N
		On Board Hose Reel - PASSENGER	087_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	087_H_D		GRAB	Y	N	Clear / Yellow	Med	N

Water Sampling Field Sheet

Date:	23/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	VICOR HARBOR	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 8.00 AM	Time exit site: 11.00 AM
Position:		Site observations:	FIRE TRUCK REGO: WNT746

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	187	Water Tank	187_WT	QA01_WT_JC QA02_WT_JC	DISP. Bail	NA	Y - Chemical	Orange (Rust)	Med.	Y - dirt (med.)
		Monitor	187_Monitor	QA01_Monitor_JC QA02_Monitor_JC	GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	187_WD_P	QA01_WD_P_JC QA02_WD_P_JC	GRAB	Y	Y - Chemical	Brown / Orange	Med.	N
		Water delivery - DRIVER	187_WD_D	QA01_WD_D_JC QA02_WD_D_JC	GRAB	Y	Y - Chemical	Brown/ Orange	Med.	N
		On Board Hose Reel - PASSENGER	187_H_P	QA01_H_P_JC QA02_H_D_JC	GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	187_H_D	QA01_H_D_JC QA02_H_D_JC	GRAB	Y	N	Clear / Yellow	Med	N

Water Sampling Field Sheet

Date: 23/01/2019	Job no: 3319080
Logged by: Joel Chance	Client: MFS
Station name: VICTOR HARBOR	Project name: SAMFS PFAS Investigation
Station Staff Name:	Time entered site: 2.00 PM Time exit site: 3.30 PM
Position:	Site observations: FIRE TRUCK REGO: SB89EF VH received truck from Christie Downs 5 years ago

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1012	Water Tank	1012_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1012_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1012_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1012_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1012_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1012_H_D		GRAB	Y	N	Clear / Yellow	Med	N

WOODVILLE PARK SITE NOTES:

- JC was advised that AFFF has been sprayed on site for training purposes.

- WOODVILLE_1 was collected from the raised garden bed located E of the roller doors.
- WOODVILLE_2 was collected from the raised garden bed located in the N portion of the site.

- 35 x fruit trees (2 x apricot, 3 x lemon, 6 x lime, 2 x peach, 5 x nectarine, 1 x grape vine, 10 x tomatoes, 4 x herbs, 2 x apple).
- No chickens.

Date:	22-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0					X											X									X			X							X					X		X	X						Silty Sand, pale brown, trace organic matter
0.1					X											X									X			X							X					X		X	X						"

Date:	22-1-19
Logged By:	Jacinta Kracman
Driller:	
Drill Method:	
TD:	
Diameter:	
Casing:	
Surface Completion:	
Water Strike:	
Walter Level Final:	

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 33190080 Client: SAMFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
0											x										x				x																									mulch, bark
0.1											x										x			x			x								x				x		x		x						Sandy silt, trace gravel, dark brown, grey mottle, trace organics

WOODVILLE-2	

Water Sampling Field Sheet

Date:	22/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	WOODVILLE	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 12.15 PM	Time exit site: 1.30 PM
Position:		Site observations:	FIRE TRUCK REGO:SB00DQ

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	**Fleet no.**	**Location of Sample** *Monitor, Water Tank, Water deliveries*	**Sample ID** *Fleetno._Location C1234_WaterTank*	**Duplicate Label** *(If sampled) FD01_Initials*	**Sampling method** *grab, bucket*	**Water recirculation through pumps?**	**Observations**			
							Odour	**Colour**	**Turbidity**	**Sediment**
9 - GP	1008	Water Tank	1008_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1008_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1008_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1008_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1008_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1008_H_D		GRAB	Y	N	Clear / Yellow	Med	N

Water Sampling Field Sheet

Date:	22/01/2019	Job no: 3319080	
Logged by:	Joel Chance	Client: MFS	
Station name:	WOODVILLE	Project name: SAMFS PFAS Investigation	
Station Staff Name:		Time entered site: 12.15 PM	Time exit site: 1.30 PM
Position:		Site observations:	FIRE TRUCK REGO: SB16MG

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	Fleet no.	Location of Sample *Monitor, Water Tank, Water deliveries*	Sample ID *Fleetno._Location C1234_WaterTank*	Duplicate Label *(If sampled) FD01_Initials*	Sampling method *grab, bucket*	Water recirculation through pumps?	Observations			
							Odour	Colour	Turbidity	Sediment
CAPA	1707	Water Tank	1707_WT		DISP. Bail	NA	N	Clear / Yellow	Med.	Y - dirt (low)
		Monitor	1707_Monitor		GRAB	Y	N	Clear / Yellow	High	N
		Water delivery - PASSENGER	1707_WD_P		GRAB	Y	N	Clear / Yellow	Med.	N
		Water delivery - DRIVER	1707_WD_D		GRAB	Y	N	Clear / Yellow	Med.	N
		On Board Hose Reel - PASSENGER	1707_H_P		GRAB	Y	N	Clear / Yellow	Med	N
		On Board Hose Reel - DRIVER	1707_H_D		GRAB	Y	N	Clear / Yellow	Med	N

Date: 29-1-19

Logged By: MH

Station Name: ADELAIDE

Station Staff Name: ROB DRIVEN

Position: DUTY OFFICER

Time entered site: 10:20am Time exit site: 11:30am

Site observations:

Job No: 3319080 Client: MFS Project Name: Largs North Station & Gallantry PFAS Testing

Sample Location ID (e.g. Mt Gambier_1)	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	COMMENTS
ADELAIDE_1					✓															✓					✓		✓									✓		✓		✓			✓		✓		Location of Sample: S of main station Odour: ORGANIC AFFF Spray neaby: Y/N ~10m away
Dup Label: ADE_DUP_1																																														
ADE_DUP_1					✓															✓					✓		✓									✓				✓			✓		✓		Location of Sample: Same as above. Odour: AFFF Spray neaby: Y/N
Dup Label: —																																														
ADELAIDE_2					✓												✓								✓		✓										✓		✓			✓				Location of Sample: S of main station Odour: none AFFF Spray neaby: Y/N ~20m away
Dup Label:																																														
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N

COMMENTS

Example Responses

Location of Sample: Garden in south West portion of site

Odour: Strong organic odour *AFFF Spray neaby: Y/N*

Water Sampling Field Sheet

Date:	29-1-19	Job no: 3319080	
Logged by:	JACINTA	Client: MFS	
Station name:	ADELAIDE	Project name: Largs North Station & Gallantry PFAS Testing	
Station Staff Name:	ROB ORIDAN	Time entered site: 10:30am	Time exit site: 11:30pm
Position:	DUTY OFFICER	Site observations:	ONLY 2 TRUCKS PRESENT

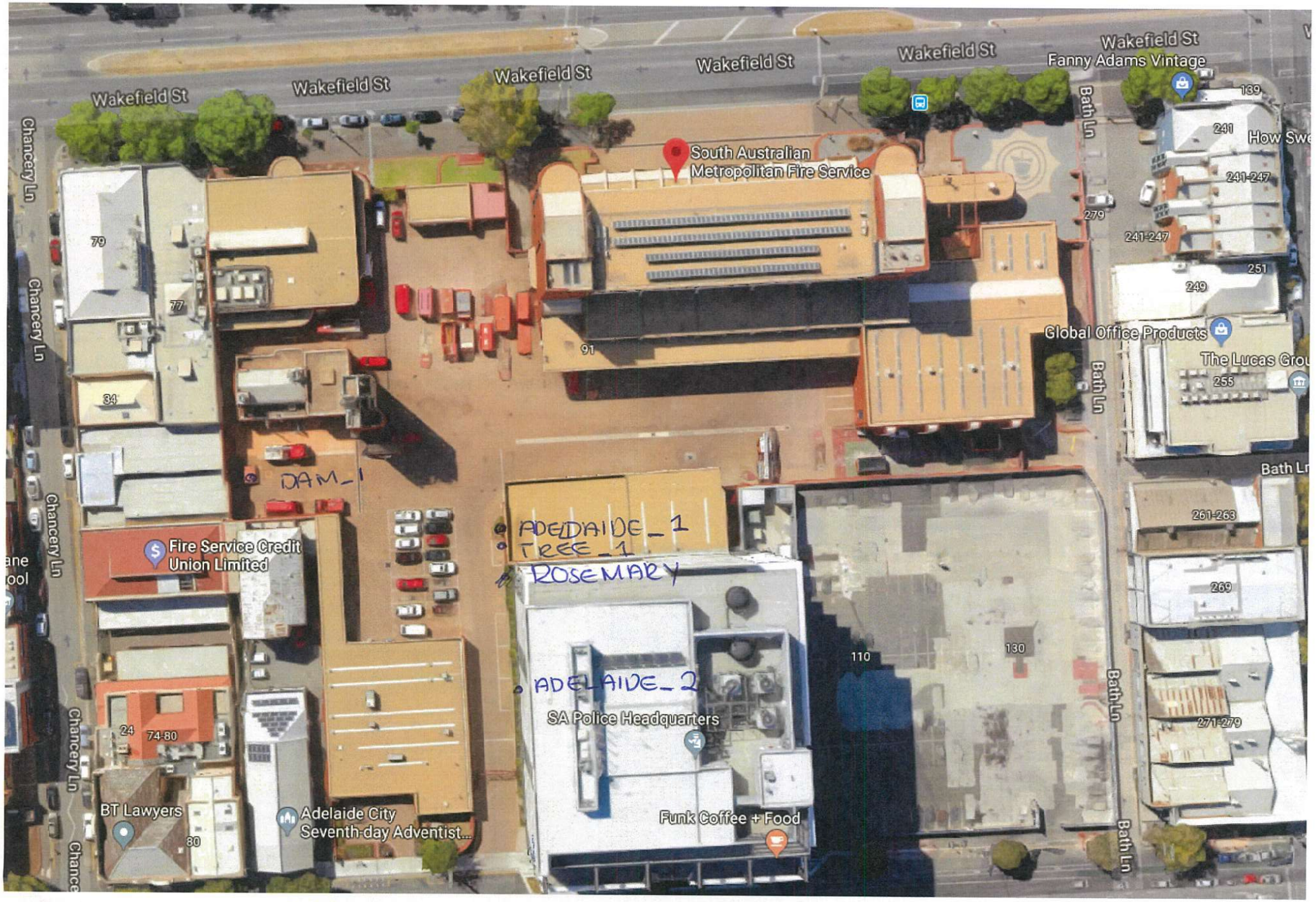
Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	Fleet no.	Location of Sample *Monitor, Water Tank, Water deliveries*	Sample ID *Fleetno._Location C1234_WaterTank*	Duplicate Label *(If sampled) FD01_Initials*	Sampling method *grab, bucket*	Water recirculation through pumps?	Observations			
							Odour	Colour	Turbidity	Sediment
202	1102	WT	~~ADELAIDE_WT~~			Y/N				
202	1102	WD-D	~~ADELAIDE_WD-D~~			Y/N				
202	1102	WD-P	~~ADELAIDE_WD_P~~			Y/N				
202	1102	H- D	~~ADELAIDE_H-D~~			Y/N				
202	1102	H-P	~~ADELAIDE_H_P~~			Y/N				
202	1102	M (MONIDOR NOT IN USE/BROKEN)				Y/N				
(GP)	083	WT				Y/N				
(GP)	083	WD-D				Y/N				
(GP)	083	WD-P				Y/N				
(GP)	083	H-D				Y/N				
(GP)	083	H-P				Y/N				
(GP)	083	M				Y/N				
						Y/N				
						Y/N				

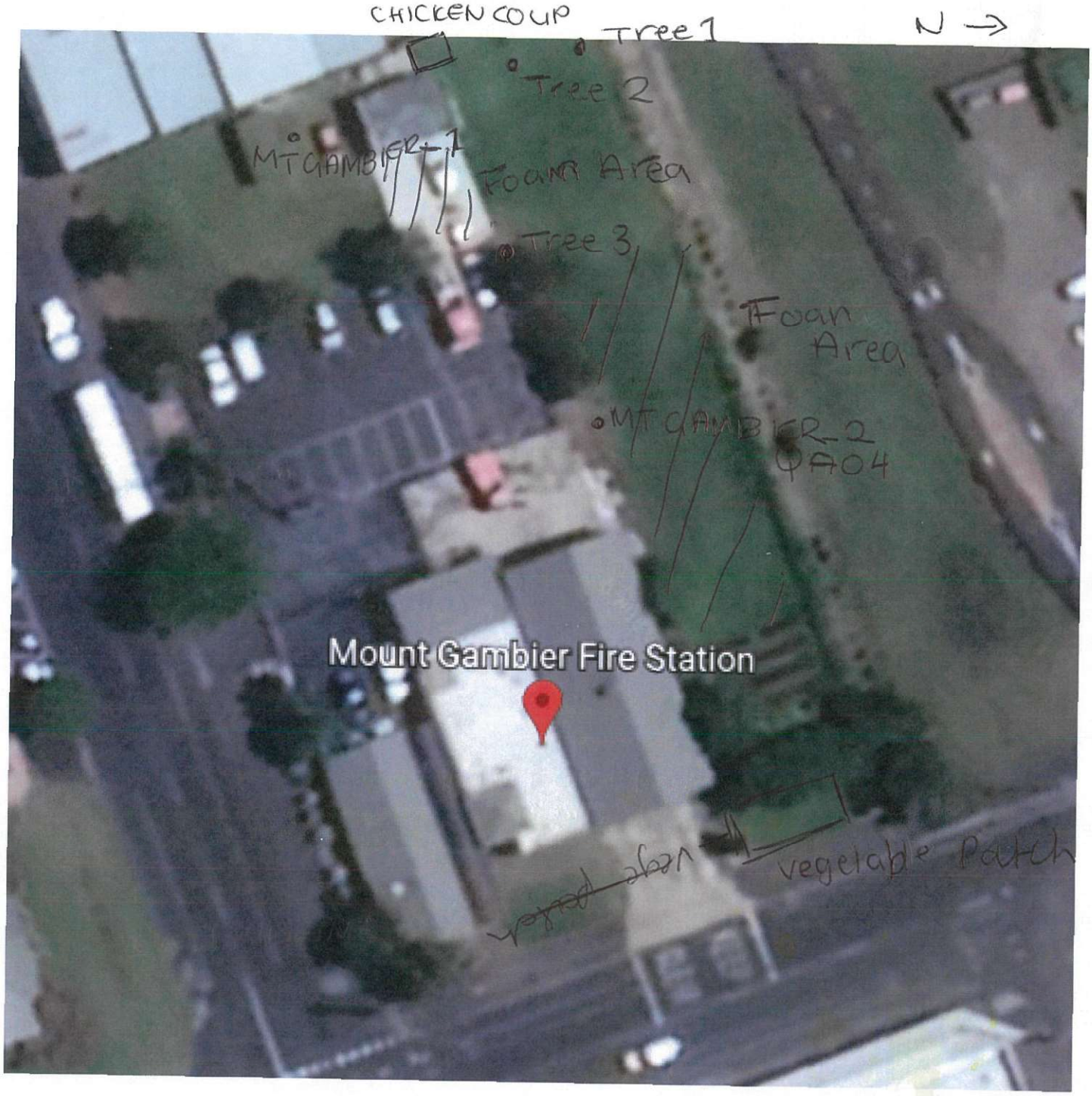
Consumables Sampling Field Sheet

Date:	29-1-19	Job no: 3319080	
Logged by:	MH	Client: MFS	
Station name:	ADELAIDE	Project name: Largs North Station & Gallantry PFAS Testing	
Station Staff Name:	ROB DRIDAN	Time entered site: 10:20am	Time exit site: 11:30am
Position:	DUTY OFFICER	Site observations: 2 CONSUMABLE TYPES TOTAL.	

Consumables Sample ID *Tree1 / Egg1*	Tree fruit type *Peacharine*	Tree Height (m)	Tree location *West of Main Station*	Comments *Consumed by staff? No. of chickens?*
ADL-TREE-1	NECTARINE	3m	S of main station	UNSURE IF CONSUMED BY STAFF
ROSEMARY-ADL	ROSEMARY	1m	S of main station	CONSUMED BY STAFF & FAMILY



DAM_1 = DAM WHICH ONSITE DRAINS DRAIN INTO. AFFS FOAM? WATER



Notes:

Tree 1: Nectarine

Tree 2: Plum

Tree 3: Mulbury (no fruit to sample)

Vege Patch: Squash, Butternut Pumpkin
Tomatoes, Rosemerry, Parsley,
Silverbeat, Zhukini

Chickens roam everywhere, fed pellets, foodscraps including foodscraps from fruit trees grown on property, peck around garden

Water Sampling Field Sheet

Date: 23-01-19 | Job no: 3319080

Logged by: MH | Client: MFS

Station name: MT GAMBIER | Project name: Largs North Station & Gallantry PFAS Testing

Station Staff Name: LANGLEY FRY | Time entered site: 9:00 am | Time exit site: 12:30 pm

Position: FIREFIGHTER, 4th CLASS | Site observations: see soil sampling sheet

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

10 monitor

30th

Truck Type	Fleet no.	Location of Sample *Monitor, Water Tank, Water deliveries*	Sample ID *Fleetno._Location C1234_WaterTank*	Duplicate Label *(If sampled) FD01_Initials*	Sampling method *grab, bucket*	Water recirculation through pumps?	Observations			
							Odour	Colour	Turbidity	Sediment
7014	210	WATER DELIVERY	210_DELIVERY		GRAB	Y/N	none	none	none	none
7014	210	HOSEREEL	210_HOSEREEL		GRAB	Y/N	"	"	"	"
7014	210	TANK	210_TANK		GRAB	Y/N	"	"	"	"
701	188	PASSENGER HOSEREEL	188_PASSENGER_HOSEREEL		GRAB	Y/N	"	"	"	"
701	188	DRIVER HOSEREEL	188_DRIVERS_HOSEREEL		GRAB	Y/N	"	"	"	"
701	188	PASSENGER DELIVERY	188_PASSENGER_DELIVERY		GRAB	Y/N	"	"	"	"
701	188	DRIVER DELIVERY	188_DRIVER_DELIVERY	FD02_MH	GRAB	Y/N	"	"	FD02_MH	"
701	188	DRIVER DELIVERY	FD02_MH	-	GRAB	Y/N	"	"	"	"
701	188	MONITOR	188_MONITOR		GRAB	Y/N	"	"	"	"
701	188	TANK	188_TANK		GRAB	Y/N	"	"	"	"
709	098	DRIVER HOSEREEL	098_DRIVER_HOSEREEL	"		Y/N	"	"	"	"
709	098	PASSENGER HOSEREEL	098_PASSENGER_HOSEREEL	"		Y/N	"	"	"	"
709	098	DRIVER DELIVERY	098_DRIVER_DELIVERY	"		Y/N	"	"	"	"
709	098	PASSENGER DELIVERY	098_PASSENGER_DELIVERY			Y/N	"	"	"	"

Water Sampling Field Sheet

Date: 23-01-19 | Job no: 3319080

Logged by: MH | Client: MFS

Station name: MT GAMBIER | Project name: Largs North Station & Gallantry PFAS Testing

Station Staff Name: LANGLEY FRY | Time entered site: 9:00am | Time exit site: 12:30 pm

Position: FIREFIGHTER, 4th CLASS | Site observations: see soil sampling sheet

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	Fleet no.	Location of Sample *Monitor, Water Tank, Water deliveries*	Sample ID *Fleetno._Location C1234_WaterTank*	Duplicate Label *(If sampled) FD01_Initials*	Sampling method *grab, bucket*	Water recirculation through pumps?	Observations			
							Odour	Colour	Turbidity	Sediment
709	098	MONITOR	098_MONITOR	–	GRAB	(Y)/N	none	none	none	none
709	098	TANK	098_TANK			(Y)/N	"	"	"	"
703	1401	PASSENGER HOSEREEL	1401_PASSENGER_HOSEREEL	FD03_MH	"	(Y)/N	"	"	"	"
703	1401	PASSENGER HOSEREEL	~~1401~~ FD03_MH	–	"	(Y)/N	"	"	"	"
703	1401	DRIVER HOSEREEL	1401_DRIVER_HOSEREEL		"	(Y)/N	"	"	"	"
703	1401	DRIVER DELIVERY	1401_DRIVER_DELIVERY		"	(Y)/N	"	"	"	"
703	1401	PASSENGER DELIVERY	1401_PASSENGER_DELIVERY		"	(Y)/N	"	"	"	"
703	1401	MONITOR	1401_MONITOR	–	"	(Y)/N	"	"	"	"
703	1401	TANK	1401_TANK	–	"	(Y)/N	"	"	"	"
						(Y)/N				
						(Y)/N				
						Y/N				
						Y/N				
						Y/N				

ENVIROLAB.

Consumables Sampling Field Sheet

Date:	23-1-19	Job no: 3319080	
Logged by:	MH	Client: MFS	
Station name:	MT GAMBIER	Project name: Largs North Station & Gallantry PFAS Testing	
Station Staff Name:	LANGLEY FRY	Time entered site: 9:00am	Time exit site: 12:30pm
Position:	FIREFIGHTER, 4TH CLASS	Site observations:	See soil sampling sheets.

Consumables Sample ID *Tree1 / Egg1*	Tree fruit type *Peacharine*	Tree Height (m)	Tree location *West of Main Station*	Comments *Consumed by staff? No. of chickens?*
MG-TREE1	NECTARINE	2.5m	WEST OF MAIN STATION	NO - 1st YEAR WITH FRUIT
MG-TREE2	PLUM	2-5m	WEST OF MAIN STATION	NO - 1ST YEAR WITH FRUIT
MG-TREE3	MULBERRY	2m	WEST OF MAIN STATION	NO - 1ST YEAR WITH FRUIT
MG-SQUASH	SQUASH	–	NORTH OF MAIN STATION	CONSUMED BY FAMILY ? MFS STAFF
MG-PUMPK	BUTTERNUT PUMPKIN	–	"	" "
MG-TOMATO	TOMATO	–	"	" "
MG-ROSEMERRY	ROSEMERRY	–	"	" "
MG-PARSLEY	PARSLEY	–	"	" "
MG-SILVERBEAT	SILVERBEAT	–	"	" "
MG-ZHUKIN	ZHUKINI	–	"	" "
MG-EGGS	EGGS (12)	–	WEST OF MAIN STATION IN COUR.	" " 4 CHICKENS NOW REMOVED FROM STATION

Date: 23-01-19

Logged By: MH

Station Name: MT GAMBIER

Station Staff Name:

Position:

Time entered site: 9:00AM Time exit site:

Site observations: LARGER SITE, FULLTIME STAFF, VEGE PATCH, FRUIT TREES, OFFICES, FENCED OFF.

Job No: 3319080 Client: MFS Project Name: Largs North Station & Gallantry PFAS Testing

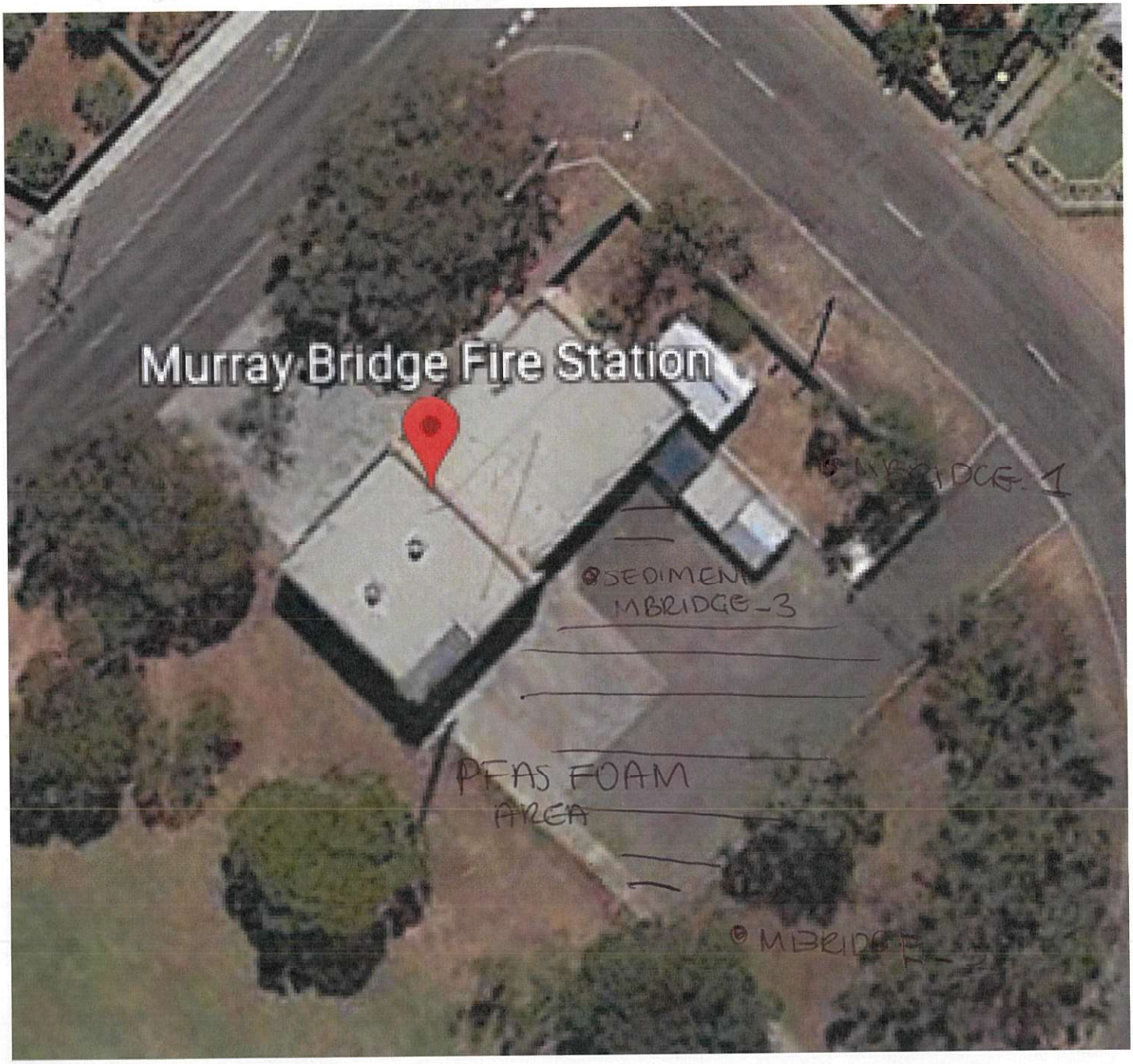
Sample Location ID (e.g. Mt Gambier_1)	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	COMMENTS
MTGAMBIER_1 Dup Label:						✓	✓	✓						✓											✓		✓								✓		✓				✓	✓					Location of Sample: WEST OF MAIN STATION (GRASS AREA) Odour: DIRT AFFF Spray neaby: Y/N
MTGAMBIER_2 Dup Label: QA04					✓									✓											✓		✓								✓		✓		✓			✓					Location of Sample: WEST OF MAIN STATION. Odour: ORGANIC AFFF Spray neaby: Y/N
QA04 Dup Label:					✓									✓											✓		✓									✓		✓		✓			✓					Location of Sample: SAME AS MTGAMBIER_2 Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																													Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																													Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																													Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																													Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																													Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																													Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																													Location of Sample: Odour: AFFF Spray neaby: Y/N

COMMENTS

Example Responses

Location of Sample: Garden in south West portion of site

Odour: Strong organic odour *AFFF Spray neaby: Y/N*



Notes:

NO CONSUMABLES

2 TRUCKS

Water Sampling Field Sheet

Date:	22-01-19	Job no: 3319080	
Logged by:	MH	Client: MFS	
Station name:	MURRAY BRIDGE	Project name: Largs North Station & Gallantry PFAS Testing	
Station Staff Name:	NICHOLAS STEPHENS	Time entered site: 10:30 AM	Time exit site: 12:30 pm
Position:	STATION OFFICER	Site observations:	see soil sampling sheet

Please take samples from all 'on board hose reel', one 'monitor' sample, a single 'water delivery' sample per side of truck and one 'water tank' sample.
At the 10th and 30th sample take an INTRAlab dup, at the 20th and 40th take an INTERlab dup.

Truck Type	Fleet no.	Location of Sample *Monitor, Water Tank, Water deliveries*	Sample ID *Fleetno._Location C1234_WaterTank*	Duplicate Label *(If sampled) FD01_Initials*	Sampling method *grab, bucket*	Water recirculation through pumps?	Observations			
							Odour	Colour	Turbidity	Sediment
721	185	PASSENGER HOSE REEL	185_PASSENGER_HOSEREEL		GRAB	(Y)/N	none	clear	none	none
721	185	DRIVERS HOSE REEL	185_DRIVERS_HOSEREEL		GRAB	(Y)/N	"	"	"	"
721	185	DRIVERS WATER DELIVERY	185_DRIVERS_DELIVERY		GRAB	(Y)/N	"	"	"	"
721	185	PASSENGER WATER DELIVERY	185_PASSENGER_DELIVERY		GRAB	(Y)/N	"	"	"	"
721	185	MONITOR	185_MONITOR		GRAB	(Y)/N	"	"	"	"
721	185	TANK	185_TANK		GRAB	(Y)/N	"	"	"	"
722	088	PASSENGER HOSE REEL	088_PASSENGER_HOSEREEL		GRAB	(Y)/N	"	"	"	"
722	088	DRIVER HOSEREEL	088_DRIVER_HOSEREEL		GRAB	(Y)/N	"	"	"	"
722	088	PASSENGER DELIVERY	088_PASSENGER_DELIVERY		GRAB	(Y)/N	"	"	"	"
722	088	PASSENGER DELIVERY	FD01_MH	—	GRAB	(Y)/N	"	"	"	"
722	088	DRIVER DELIVERY	088_DRIVER_DELIVERY		GRAB	(Y)/N	"	"	"	"
722	088	TANK	088_TANK		GRAB	(Y)/N	"	"	"	"
722	088	MONITOR	088_MONITOR	—	GRAB	(Y)/N	"	"	"	"
						Y/N				

Date: 22-01-19

Logged By: MLH

Station Name: MURRAY BRIDGE

Station Staff Name: NICHOLAS STEPHEN

Position: STATION OFFICER

Time entered site: 10:30AM Time exit site:

Site observations: - multiple dead cars - 2 drains drained AFFF into - no consumables

Job No: 3319080 Client: MFS Project Name: Largs North Station & Gallantry PFAS Testing

Sample Location ID (e.g. Mt Gambier_1)	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	SAND Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	COMMENTS
MBRIDGE_1					✓											✓										✓	✓								✓			✓			✓	✓						Location of Sample: E of station Odour: dirt odour AFFF Spray neaby Y/N
Dup Label: QA02																																														
QA03					✓											✓										✓	✓								✓						✓			✓	✓				Location of Sample: same as MBRIDGE_1 Odour: AFFF Spray neaby Y/N
Dup Label:																																														
MBRIDGE_2					✓								✓													✓	✓										✓	✓			✓			✓			Location of Sample: S of station Odour: organic AFFF Spray neaby Y/N
Dup Label:																																														
MBRIDGE_3					✓								✓												✓			✓									✓	✓			✓			✓			Location of Sample: Next to E side of station Odour: organic. AFFF Spray neaby Y/N
Dup Label:																																														
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N
Dup Label:																																														Location of Sample: Odour: AFFF Spray neaby: Y/N

COMMENTS

Example Responses

Location of Sample: Garden in south West portion of site

Odour: Strong organic odour *AFFF Spray neaby: Y/N*

MBRIDGE_3 sediment sample from in drain PFAS drained into

Date: 22/1/18
Logged by: TS
Station: Kapunda
Staff: Camero-

Time Entered: 1000 Time Exit: 1130

Truck	Fleet # (Call Sign)	location ~~Sample~~ ID	Recirculation	Colour	Turbidity	Sediment
ISUZU MUP	189 (641)	Reel pass. side KAP641-RPS	-	-	-	-
		Reel drivers side KAP641-RDS	-	-	-	-
		Delivery pass. side KAP641-DPS	-	-	-	-
		Delivery drivers side KAP641-DDS	-	-	-	-

Date: 22/1/19

Logged by: TS

Station: Tarwonga

Staff: Kevin

Time entered: 1245 Time exit: 1430

Truck	Fleet # (call sign)	location	ID	Recirculation	colour	turbidity	sediment
Scania 94D	~~177~~ (631)	Reel pass side	Tan 631-RPS	—	—	—	—
		Reel drivers side	Tan 631-RDS	—	—	—	—
		Delivery pass side	Tan 631-DPS	—	—	—	very low
		Delivery drivers side	Tan 631-DDS	—	light grey	med	med
		Monitor	Tan 631-M	—	—	—	very low
		Tank	Tan 631-T	Yes, but may have been emptied and refilled within last week ~~night~~	—	—	—
Isuzu MVP	197 (639)	Delivery drivers side	Tan 639-DDS	—	light grey	med	med
		Delivery pass side	Tan 639-DPS	—	light orange tinge	low	low
		Reel pass side	Tan-639-RPS	—	—	—	—
		Reel drivers side	Tan639-RDS	—	—	—	—

Date: 22/1/19
Logged by: TS
Station: Berri
Staff: Mark

Time entered 1700
Time Exit 1900

Truck	Fleet (callsign)	location	ID	Recirculation	Colour	turbidity	Sediment
Scania 94D	180 (609)	Reel drivers side	BER609-RDS	-	—	—	low
		Reel pass side	BER609-RPS	-	—	—	low
		Delivery drivers side	BER609-DDS	-	—	—	very low
		Delivery pass. side	BER609-DPS	-	light grey ring	low	med.
		Monitor	BER609-M	-	—	Very low	low
		Tank	BER609-T	Y	—	—	—
Merc. Atego	090 (601)	Tank	BER601-T	Y	—	—	—
		Delivery drivers side	BER601-DDS		-	-	very low
		Delivery pass. side	BER601-DPS		—	—	—
		Reel pass. side	BER601-RPS		-	Very low	very low
		Reel drivers side	BER601RDS		—	—	very low
		Monitor	BER601-M		-	very low	~~very~~ low

Date: 23/1/19

logged by: TS

Time entered: 0900 Time Exit: 1100

Station: Renmark

Staff: Kevin Stewart
Rock regional operational coordinator

Truck	Fleet (Callsign)	location	ID	recirculation	colour	turbidity	Sediment
Isuzu ~~Scania~~ Rosa ~~MCP~~	~~MCP~~ 208 (G114)	Delivery passenger side	REN208-DPS	—	*	*	*
		reel passenger side	REN208-RPS	—	*	*	*
Scania 93M	165 (no callsign)	Tank	REN165-T	Y	*	*	*
		Reel pass. side	REN165-RPS	—	*	*	*
		Delivery pass. side	REN165-DPS	—	light ~~brown~~	medium	medium
		Reel Drivers side	REN165-RDS	—	brown tinge	low	low
		Monitor	REN165-M	—	—	—	low
~~Isuzu~~ MVP	~~200~~ (G19)	Delivery drivers side	REN165-DDS	—	grey tinge	medium	medium
Isuzu MVP	200 (G18)	Reel pass. side	REN200-RPS	—	—	—	—
		Reel drivers side	REN200-RDS	—	—	—	—
		Delivery drivers side	REN200-DDS	—	—	very low	—
		Delivery pass. side	REN200-DPS	—	—	very low	low

Date: 23/11/19
logged by: DS
station: Loxton
staff: Aidan, senior Firefighter

time arrive: 1200 time exit: 1300

Truck	Fleet (callsign)	location	IO	recirculation	colour	turbidity	sediment
Isuzu Nvp	202 (628)	Reel Pass. side	Lox202-RPS	-	—	—	—
		Reel Drivers side	Lox202-RDS	-	—	—	—
		Delivery Pass. side	Lox202-DPS	-	light orange brown	medium	med.
		Delivery Drivers side	Lox202-DDS	-	"	"	med.	med.
		Tank	Lox202-T	Y	—	—	—
Isuzu Rosa	211 (6214)	Reel pass. side	Lox211-RPS	—	—	—	—
		Delivery pass. side	Lox211-DPS	—	—	—	—

Remark

Truck	Fleet (call sign)
Bulk water carrier	140 (6142)

BERRI

ISUZU ROSA	Z13 (6014)

Continued

Location	ID	recirculation	Colour	turb.	sed.
Pump	REN140-Pump	–	–	–	–
Delivery	REN140-D	–	–	–	low

Continued

Reel pass side	BER6014-RPS	–	–	–	–	–
Delivery pass side	BER6014-DPS	–	–	–	very low	

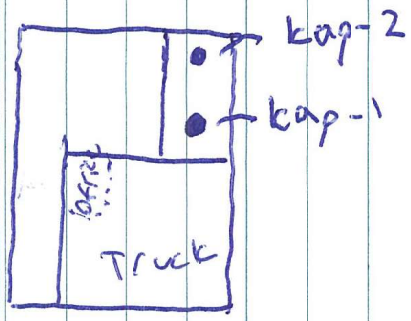
Rinsate samples

Rin 1 taken 22/1 at Lagunda

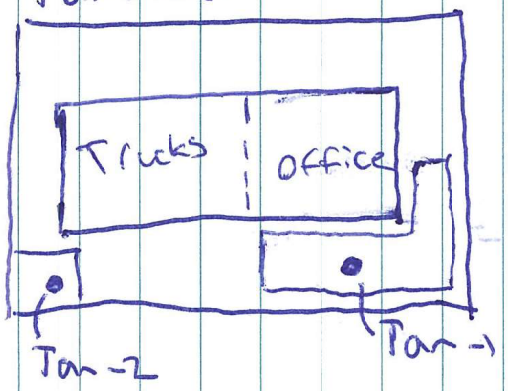
RINS-2 taken 23/1 at Remark

MFS Maps

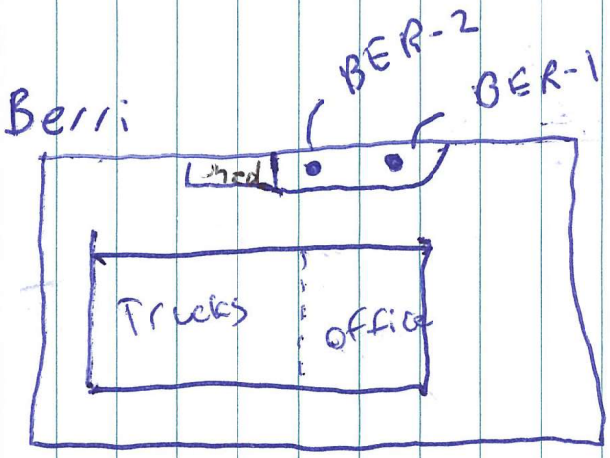
Kapunda



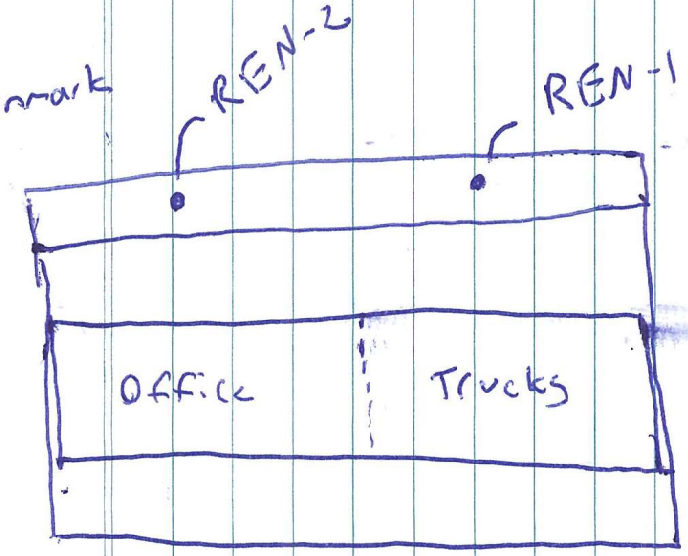
Tanunda



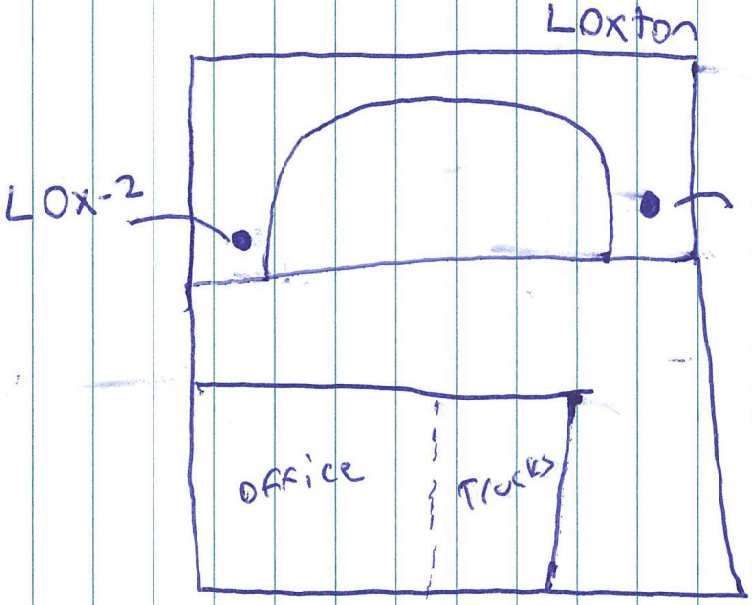
Berri



Renmark



Loxton



Whyalla

Date:	Diameter:
Logged By:	Casing:
Driller:	Surface Completion:
Drill Method:	Water Strike:
TD:	Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 331408 Client: MFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-liesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
																																																	clayey sand, med-coarse, dark brown, organic

Whyalla 1
Whyalla 2

186 - tank
- monitor
- hose LLR
- delivery LLR

AFF sprayed out back in soil.

176 - tank
delivery LLR

207 - hose
- delivery

1801 - hose LLR
- delivery LLR

203 - delivery L, R
- hose LLR
- tank

Port Lincoln 23/1

Date:	Diameter:
Logged By:	Casing:
Driller:	Surface Completion:
Drill Method:	Water Strike:
TD:	Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 2314080 Client: MFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	SAND Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	SAND Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
Lincoln-1																																																	Sand, fine-medy, brown, organics, loose.
Lincoln-2																																																	"

178 - tank, monitor, hose L & R, delivery L & R — QCRW_3

212 - delivery hose. — QCRW_4

1014 - hose L & R
- tank
- monitor
- delivery L & R

181 - hose
- delivery.

recently moved to this location (2010)

Mounta

Date:	Diameter:
Logged By:	Casing:
Driller:	Surface Completion:
Drill Method:	Water Strike:
TD:	Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 23196SC Client: MFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
Mounta																																																	Sandy SILT, pale brown - grey, dry.
Mounta 2																																																	"

193 tank MOP

hose L LR

elbows L LR

(194 in Adelaide
Str repairs)

Wellhead

Date:	Diameter:
Logged By:	Casing:
Driller:	Surface Completion:
Drill Method:	Water Strike:
TD:	Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3319080 Client: MRS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
Wellhead-1																																																	Silty Sand, pale brown, grey, some gravel
Wellhead-2																																																	" typ 10mm

Lgl- funk

Scenic.

monitor

hire LRR

delivery LRR

Kaeliner.

Date:	Diameter:
Logged By:	Casing:
Driller:	Surface Completion:
Drill Methcd:	Water Strike:
TD:	Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: Client: Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
Kaeliner 1																																																	gravel, 5-20mm, pale brown, some lateritic
Kaeliner 2																																																		u u
																																																	taken from seelled surface, do not test

COMMENTS

178 - tarp (scanner)

monitor.

hose L RR

elelvon L LK

Site all sealed

Port Augusta 22/1/19

Date:	Diameter:
Logged By:	Casing:
Driller:	Surface Completion:
Drill Method:	Water Strike:
TD:	Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: Client: Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
Augusta_1																																																	Sand, fine - medy., orange, v. clay, some gravel.
Augusta_2																																																		"

206- delivery
hose

172 tank
monitor
delivery L LR
hose L LR

201- hose L LR
delivery L LR
tank

179- hose delivery L
delivery R
hose R
delivery L
monitor
tank

Port Pirie 22/1/19

Date:	Diameter:
Logged By:	Casing:
Driller:	Surface Completion:
Drill Method:	Water Strike:
TD:	Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 3314080 Client: MFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
PH4_1																																																	clayey sand, fine-med g. dark brown. Some organics Moist.
PH4_2																																																			same as above, dry.
PH4_3																																																			" "
PH4_4																																																			" "

196 - hose L

196 - hose R

196 - tank

196 - delivery L

196 - delivery R

980 - monitor

980 - delivery L

980 - delivery R

980 - tank

980 - hose L

980 - hose R

205 - hose

205 - delivery

205 - tank (suction)

1003 - tank

1003 - monitor

1003 - hose L

1003 - hose R

1003 - delivery L

1003 - delivery R

Peterborough

Date:	Diameter:
Logged By:	Casing:
Driller:	Surface Completion:
Drill Method:	Water Strike:
TD:	Walter Level Final:

Blank depth	
Screen Depth	
Gravel Pack Depth	
Bentonite Depth	
Grout	
Concrete	

Job No: 331980 Client: MFS Project Name:

DEPTH	Geology: Clay	Silt	Sandy Clay	Clayey Sand	Silty Sand	Sand	Clayey Gravel	Silty Gravel	Gravel	Fill	Other - Write in Comments	Colour: Lt grey	Md grey	Dk grey	Brn grey	Pale Brown	Greyish brown	Yellowish Brown	Dk Yellowish Orange	Reddish Brown	Mottled	other - write in comments	Moisture content: Wet	Moist	Low	Dry	Hardness: V-soft	Soft	Firm	Stiff	V- Stiff	Hard	Friable	CLAY Plasticity: High	Medium	Low	None	SAND Size: Coarse	Medium	Fine	Sorting: Well sorted	Moderatley well sorted	Poorly Sorted	Texture: Loose	Co-Hesive	IMPACT: Odour	Visual - Write in Comments	PID	COMMENTS
Peterborough_1 QCRW_6																																																	Sandy CLAY, Brown, Brown med plastic, brown moist, high organic
Peterborough_2 QCRW_7																																																	Same as above

Trucks

FN	Type	Samples	
097	Scania	097_tank	QCRW_2
		097_monitor	
		097_hose L	
		097_hose R	
		097_delivery L	
		097_delivery R	

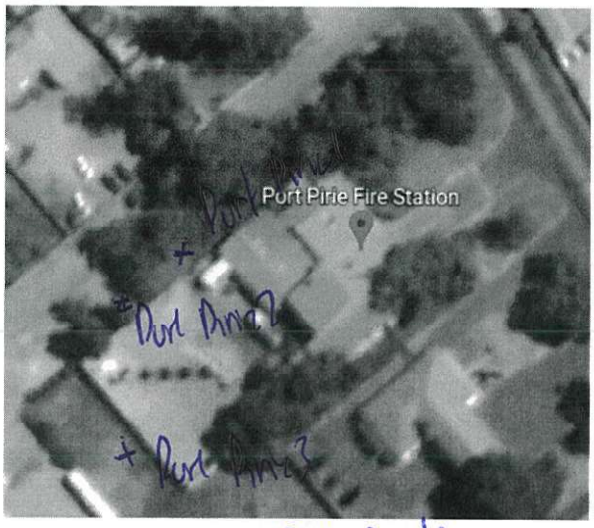
AFFF sprayed all over grass section behind building

Kadina

Moonta

Wallaroo

Port Pirie



Peterborough

Port Augusta

* Whyalla 2

Whyalla

+ Whyalla 1

Port Lincoln

* Lincoln 2

X Lincoln 1

Appendix D – Laboratory Reports

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square Adelaide SA 5000
Telephone 618 8111 6000 Facsimile 618 8111 6099
Email adimail@ghd.com.au

GHD Mt Gambier
2A Helen St, Mt Gambier SA 5290
Telephone 618 8721 0800 Facsimile 618 8721 0253

GHD Roxby Downs
1114 Tulloo St Roxby Downs SA
Telephone 618 8671 4000 Facsimile 618 8671 4099

Turnaround Requirement
☒ STANDARD
☐ NON-STANDARD

SEND TO: ENVIROLAB SYDNEY

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	Mei lyn Herbertt	T.Nguyen		
Project		Date/Time:	Date/Time: 24/11/19 11:30	Date/Time:	Date/Time:
Largs North Station & Gallantry PFAS testing					

GHD Project Manager	GHD Contact
Dilara Valiff	Dilara Valiff
Email Reports to: dilara.valiff@ghd.com joel.chance@ghd.com julian.howard@ghd.com	Quote 19SA002

ALS Laboratories
2-4 Westall Rd, SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact

MGT LabMark
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact

SGS
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact

BUREAU VERITAS AMDEL
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact

	Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar B: Bag V: Vial G: Glass bottle, P: Plastic bottle	Analyses Required: PFAS - SHORT - SUITE	Remarks
1	MBRIDGE_1	22-11-19	-	SOIL	1x P	✓	
2	MBRIDGE_2	"	-	SOIL	1x P	✓	
3	MBKIDGE_3	"	-	SOIL	1x P	ON HOLD	ON HOLD
4	QA03	"		SOIL	1x P	✓	
5	185_PASSENGER_HOSEREEL	"	-	WATER	1x P	✓	
6	185_DRIVERS_HOSEREEL	"	-	"	1x P	✓	
7	185_DRIVER_DELIVERY	"	-	"	1x P	✓	
8	185_PASSENGER_DELIVERY	"	-	"	1x P	✓	
9	185_MONITOR	"	-	"	1x P	✓	
10	185_TANK	"	-	"	1x P	✓	
11	088_PASSENGER_HOSEREEL	"	-	"	1x P	✓	
12	088_DRIVER_HOSEREEL	"	-	"	1x P	✓	
13	088_PASSENGER_DELIVERY	"	-	"	1x P	✓	
14	088_DRIVER_DELIVERY	"	-	"	1x P	✓	
15	FDOI_MH	"	-	"	1x P	✓	
16	088_TANK	"	-	"	1x P	✓	
17	088_MONITOR	"	-	"	1x P	✓	
18	MURRAY_RINSATE	"	-	"	1x P	✓	
19	MT GAMBIER_RINSATE	23-11-19	"	"	1x P	✓	
20	MTGAMBIER_1	23-11-19	"	SOIL	1x P	✓	

Remarks:

ENVIROLAB
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 210195
Date Received: 24/11/19
Time Received: 11:30
Received by: TN
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Wakefield Square Adelaide SA 5000
Telephone: 618 8111 0600 Facsimile: 618 8111 0699
Email: adimail@ghd.com.au

GHD Mt Gambier
24 Helen St Mt Gambier SA 5290
Telephone: 618 8721 0600 Facsimile: 618 8721 0699

GHD Roxby Downs
5/14 Tudor St Roxby Downs SA
Telephone: 618 8671 4099 Facsimile: 618 8671 4099

Turnaround Requirement:
☒ STANDARD
☐ NON-STANDARD

ENVIROLABS SYDNEY

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	Mei lyn Herbert			
Project		Date/Time:	Date/Time:	Date/Time:	Date/Time:
Largs North Station & Gallantry PFAS testing					

GHD Project Manager	GHD Contact	Quote
Dilara Valiff	Dilara Valiff	19SA002

Email Reports to:
dilara.valiff@ghd.com joel.chance@ghd.com
julian.howard@ghd.com

SEND TO:

☐ ALS Laboratories
2-4 Westall Rd, SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact

☒ MGT LabMark
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact

☐ SGS
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact

☐ BUREAU VERITAS AMDEL
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 2100
Contact

	Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag V: Vial; G: Glass bottle; P: Plastic bottle	PFAS - SHORT - SUITE	Remarks
21	MTGAMBIER_2	23-1-19	—	SOIL	1xP	✓	
—	QA04	23-1-19	—	SOIL	1xP	✓	FORWARD TO ALS
22	210_DELIVERY	"	—	W	1xP	✓	
23	210_HOSEREEL	"	—	W	1xP	✓	
24	210_TANK	"	—	W	1xP	✓	
25	188_PASSENGER_HOSEREEL		—	W	1xP	✓	
26	188_DRIVERS_HOSEREEL		—	W	1xP	✓	
27	188_PASSENGER_DELIVERY		—	W	1xP	✓	
28	188_DRIVER_DELIVERY		—	W	1xP	✓	
—	FD02_MH	"	—	W	1xP	✓	FORWARD TO ALS
29	188_MONITOR	"	—	W	1xP	✓	
30	188_TANK	"	—	W	1xP	✓	
31	098_DRIVER_HOSEREEL		—	W	1xP	✓	
32	098_PASSENGER_HOSEREEL		—	W	1xP	✓	
33	098_DRIVER_DELIVERY		—	W	1xP	✓	
34	098_PASSENGER_DELIVERY			W	1xP	✓	
35	098_MONITOR	"	—	W	1xP	✓	
36	098_TANK	"	—	W	1xP	✓	
37	1401_PASSENGER_HOSEREEL			W	1xP	✓	
38	FD03_MH	"	—	W	1xP	✓	

Analyses Required

Remarks:

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 210195
Date Received: 24/11/19
Time Received: 11:30
Received by: TN
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
Telephone: 618 8111 0000 Facsimile: 618 8111 0099
Email: adlmail@ghd.com.au

GHD Mt Gambier
2A Ireton St, Mt Gambier SA 5290
Telephone: 618 8721 0800 Facsimile: 618 8721 0899

GHD Roxby Downs
1/14 Tudor St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement
☒ STANDARD
☐ NON-STANDARD

SEND TO: ENVIROLABS SYDNEY

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	Mei lyn Herbert			
Project		Date/Time:	Date/Time:	Date/Time:	Date/Time:
Largs North Station & Gallantry PFAS testing					

GHD Project Manager	GHD Contact
Dilara Valiff	Dilara Valiff
Email Reports to: dilara.valiff@ghd.com joel.chance@ghd.com julian.howard@ghd.com	Quote 19SA002

ALS Laboratories
2-4 Westall Rd SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact

MGT LabMark
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact

SGS
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact

BUREAU VERITAS AMDEL
2/35 Cormack Rd WINGFIELD SA 5013
Ph: 08 8348 7100
Contact

	Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	PFAS - SHORT - SUITE	Remarks
39	1401_DRIVER_HOSEREEL23	23-1-19	—	W	1x P	✓	
40	1401_DRIVER_DELIVERY	23-1-19	—	W	1x P	✓	
41	1401_PASSENGER_DELIVERY	23-1-19	—	W	1x P	✓	
42	1401_MONITOR	23-1-19	—	W	1x P	✓	
43	1401_TANK	23-1-19	—	W	1x P	✓	
44	MG_TREE1	〃	—	FRUIT/VEG	1x PRG	✓	
45	MG_TREE2	〃	—	〃	〃	✓	
46	MG_TREE3	〃	—	〃	〃	✓	
47	MG_SQUASH	〃	—	〃	〃	✓	
48	MG_PUMPK	〃	—	〃	〃	✓	
49	MG_TOMATO	〃	—	〃	〃	✓	
50	MG_ROSEMERRY	〃	—	〃	〃	✓	
51	MG_PARSELY	〃	—	〃	〃	✓	
52	MG_SILVERBEAT	〃	—	〃	〃	✓	
53	MG_ZUKINI	〃	—	〃	〃	✓	
54	MG_EGGS	〃	—	〃	CARTON	✓	(12 EGGS) please Composite and analys as 1 sample. Please test yolk & white

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 201915
Date Received: 24/1/19
Time Received: 11:30
Received by: TN
Temp: ~~Cool~~/Ambient
Cooling: Ice/icepack
Security: Intact/Broken/None

Remarks:

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

SAMPLE RECEIPT ADVICE

Client Details

Client	GHD Pty Ltd
Attention	Joel Chance, Julian Howard, Dilara Valiff

Sample Login Details

Your reference	3319080, Largs North Station & Gallantry PFAS Test
Envirolab Reference	210195-A
Date Sample Received	24/01/2019
Date Instructions Received	04/02/2019
Date Results Expected to be Reported	11/02/2019

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	6 soil, 37 water, 10 foliar, 2 eggs
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	21.7
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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

Sample ID	PFAs in Soils Short	On Hold
MBRIDGE-1	✓	
MBRIDGE-2		✓
MBRIDGE-3	✓	
QA03	✓	
185-Passenger Hose Reel		✓
185-Drivers Hose Reel		✓
185-Drivers Delivery		✓
185-Passenger Delivery		✓
185- Monitor		✓
185 - Tank		✓
088-Passenger Hose Reel		✓
088-Driver Hose Reel		✓
088-Passenger Delivery		✓
088-Driver Delivery		✓
FD01-MH		✓
088-Tank		✓
088-Monitor		✓
Murray Rinsate		✓
Mt Gambier Rinsate		✓
Mt Gambier-1		✓
Mt Gambier-2		✓
210-Delivery		✓
210-Hose Reel		✓
210-Tank		✓
188-Passenger Hose Reel		✓
188-Drivers Hose Reel		✓
188- Passenger Delivery		✓
188- Driver Delivery		✓
188- Monitor		✓
188 - Tank		✓
098-Driver Hose Reel		✓
098- Passenger Hose Reel		✓

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

Sample ID	PFAs in Soils Short	On Hold
098-Driver Delivery		✓
098-Passenger Delivery		✓
098- Monitor		✓
098 - Tank		✓
1401- Passenger Hose Reel		✓
FD03-MH		✓
1401-Driver Hose Reel		✓
1401-Driver Delivery		✓
1401- Passenger Delivery		✓
1401- Monitor		✓
1401 - Tank		✓
MG-TREE 1		✓
MG-TREE 2		✓
MG-TREE 3		✓
MG-SQUASH		✓
MG- PUMPK		✓
MG- TOMATO		✓
MG- ROSEMERRY		✓
MG- PARSLEY		✓
MG- SILVERBEAT		✓
MG- ZHUKINI		✓
MG- EGGS white		✓
MG- EGGS yolk		✓

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.

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

CERTIFICATE OF ANALYSIS 210195

Client Details

Client	GHD Pty Ltd
Attention	Dilara Valiff
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080, Largs North Station & Gallantry PFAS Test**
Number of Samples	6 soil, 37 water, 10 foliar, 2 eggs
Date samples received	24/01/2019
Date completed instructions received	24/01/2019

Analysis Details

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

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

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

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

Report Details

Date results requested by	01/02/2019
Date of Issue	01/02/2019

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
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Jacinta Hurst, Laboratory Manager

PFAs in Soils Short			
Our Reference		210195-20	210195-21
Your Reference	UNITS	Mt Gambier-1	Mt Gambier-2
Date Sampled		23/01/2019	23/01/2019
Type of sample		soil	soil
Date prepared	-	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	4.9	11
Perfluorooctanesulfonic acid PFOS	µg/kg	43	150
Perfluorooctanoic acid PFOA	µg/kg	3.0	3.4
6:2 FTS	µg/kg	3.1	3.6
8:2 FTS	µg/kg	2.7	2.3
Surrogate $^{13}C_8$ *PFOS*	%	101	107
Surrogate $^{13}C_2$ *PFOA*	%	84	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	86	77
Extracted ISTD $^{13}C_4$ *PFOS*	%	105	96
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	88
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	#	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	#	123
Total Positive PFHxS & PFOS	µg/kg	48	160
Total Positive PFOS & PFOA	µg/kg	46	150
Total Positive PFAS	µg/kg	57	170

PFAS in Biota Short Suite						
Our Reference		210195-44	210195-45	210195-46	210195-47	210195-48
Your Reference	UNITS	MG-TREE 1	MG-TREE 2	MG-TREE 3	MG-SQUASH	MG- PUMPK
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		foliar	foliar	foliar	foliar	foliar
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<1	<1	1	<1	<1
Perfluorooctanesulfonic acid PFOS	µg/kg	<1	<1	5	<1	<1
Perfluorooctanoic acid PFOA	µg/kg	<1	<1	<1	<1	<1
6:2 FTS	µg/kg	<1	<1	<1	<1	<1
8:2 FTS	µg/kg	<1	<1	<1	<1	<1
Surrogate $^{13}C_8$ *PFOS*	%	104	98	106	96	95
Surrogate $^{13}C_2$ *PFOA*	%	75	74	82	76	81
Extracted ISTD $^{18}O_2$ *PFHxS*	%	87	89	114	102	115
Extracted ISTD $^{13}C_4$ *PFOS*	%	109	107	125	104	116
Extracted ISTD $^{13}C_4$ *PFOA*	%	101	101	108	103	104
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	104	109	#	118	129
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	98	92	#	96	89
Total Positive PFHxS & PFOS	µg/kg	<1	<1	6	<1	<1
Total Positive PFOS & PFOA	µg/kg	<1	<1	5	<1	<1

PFAS in Biota Short Suite						
Our Reference		210195-49	210195-50	210195-51	210195-52	210195-53
Your Reference	UNITS	MG- TOMATO	MG-ROSEMERRY	MG- PARSLEY	MG-SILVERBEAT	MG- ZHUKINI
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		foliar	foliar	foliar	foliar	foliar
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<1	<10	<1	2	<1
Perfluorooctanesulfonic acid PFOS	µg/kg	<1	<10	2	3	<1
Perfluorooctanoic acid PFOA	µg/kg	<1	<10	<1	<1	<1
6:2 FTS	µg/kg	<1	<10	<1	<1	<1
8:2 FTS	µg/kg	<1	<10	<1	<1	<1
Surrogate $^{13}C_8$ *PFOS*	%	112	115	108	111	105
Surrogate $^{13}C_2$ *PFOA*	%	82	79	82	87	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	111	104	106	99	107
Extracted ISTD $^{13}C_4$ *PFOS*	%	103	88	110	102	101
Extracted ISTD $^{13}C_4$ *PFOA*	%	104	94	105	96	93
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	99	117	#	133	97
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	93	70	#	107	98
Total Positive PFHxS & PFOS	µg/kg	<1	<10	2	5	<1
Total Positive PFOS & PFOA	µg/kg	<1	<10	2	3	<1

PFAS in Biota Short Suite			
Our Reference		210195-54	210195-55
Your Reference	UNITS	MG- EGGS white	MG- EGGS yolk
Date Sampled		23/01/2019	23/01/2019
Type of sample		eggs	eggs
Date prepared	-	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<5	130
Perfluorooctanesulfonic acid PFOS	µg/kg	<5	790
Perfluorooctanoic acid PFOA	µg/kg	<5	<5
6:2 FTS	µg/kg	<5	<5
8:2 FTS	µg/kg	<5	7
Surrogate $^{13}C_8$ *PFOS*	%	97	90
Surrogate $^{13}C_2$ *PFOA*	%	92	88
Extracted ISTD $^{18}O_2$ *PFHxS*	%	97	87
Extracted ISTD $^{13}C_4$ *PFOS*	%	96	96
Extracted ISTD $^{13}C_4$ *PFOA*	%	88	79
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	81	68
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	82	69
Total Positive PFHxS & PFOS	µg/kg	<1	920
Total Positive PFOS & PFOA	µg/kg	<1	790

Moisture			
Our Reference		210195-20	210195-21
Your Reference	UNITS	Mt Gambier-1	Mt Gambier-2
Date Sampled		23/01/2019	23/01/2019
Type of sample		soil	soil
Date prepared	-	31/01/2019	31/01/2019
Date analysed	-	01/02/2019	01/02/2019
Moisture	%	8.4	20

PFAS in Waters Short						
Our Reference		210195-5	210195-6	210195-7	210195-8	210195-9
Your Reference	UNITS	185-Passenger Hose Reel	185-Drivers Hose Reel	185-Drivers Delivery	185-Passenger Delivery	185- Monitor
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Date analysed	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.09	0.10	0.06	0.06	0.01
Perfluorooctanoic acid PFOA	µg/L	0.02	0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.19	0.14	0.12	0.08	0.02
8:2 FTS	µg/L	0.06	0.11	0.03	0.03	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	105	96	94	97	92
Surrogate $^{13}C_2$ *PFOA*	%	89	89	89	88	87
Extracted ISTD $^{18}O_2$ *PFHxS*	%	102	98	99	95	95
Extracted ISTD $^{13}C_4$ *PFOS*	%	95	99	100	98	99
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	99	102	98	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	101	103	98	97	97
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	91	93	88	91	90
Total Positive PFHxS & PFOS	µg/L	0.09	0.10	0.06	0.06	0.01
Total Positive PFOA & PFOS	µg/L	0.10	0.11	0.06	0.06	0.01
Total Positive PFAS	µg/L	0.36	0.36	0.22	0.17	0.03

PFAS in Waters Short						
Our Reference		210195-10	210195-11	210195-12	210195-13	210195-14
Your Reference	UNITS	185 - Tank	088-Passenger Hose Reel	088-Driver Hose Reel	088-Passenger Delivery	088-Driver Delivery
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Date analysed	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	0.22	<0.01	0.06	0.22
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.04	0.02	<0.01	0.02
6:2 FTS	µg/L	0.01	0.34	0.42	0.10	0.13
8:2 FTS	µg/L	<0.01	0.15	0.11	0.04	0.09
Surrogate $^{13}C_8$ *PFOS*	%	92	93	95	100	96
Surrogate $^{13}C_2$ *PFOA*	%	88	91	90	87	84
Extracted ISTD $^{18}O_2$ *PFHxS*	%	93	98	95	94	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	100	99	97	96	101
Extracted ISTD $^{13}C_4$ *PFOA*	%	99	94	92	100	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	97	105	116	92	102
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	90	100	90	91	90
Total Positive PFHxS & PFOS	µg/L	0.01	0.23	<0.01	0.06	0.22
Total Positive PFOA & PFOS	µg/L	0.01	0.26	0.02	0.06	0.24
Total Positive PFAS	µg/L	0.02	0.76	0.56	0.20	0.45

PFAS in Waters Short						
Our Reference		210195-15	210195-16	210195-17	210195-18	210195-19
Your Reference	UNITS	FD01-MH	088-Tank	088-Monitor	Murray Rinsate	Mt Gambier Rinsate
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Date analysed	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.04	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.1	0.02	0.02	<0.01	<0.01
8:2 FTS	µg/L	0.04	0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	97	100	94	102	96
Surrogate $^{13}C_2$ *PFOA*	%	94	95	93	93	90
Extracted ISTD $^{18}O_2$ *PFHxS*	%	78	99	100	95	99
Extracted ISTD $^{13}C_4$ *PFOS*	%	91	95	99	98	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	92	98	97	98	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	90	100	93	90	95
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	93	87	88	98	97
Total Positive PFHxS & PFOS	µg/L	0.04	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.04	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.18	0.03	0.02	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210195-22	210195-23	210195-24	210195-25	210195-26
Your Reference	UNITS	210-Delivery	210-Hose Reel	210-Tank	188-Passenger Hose Reel	188-Drivers Hose Reel
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Date analysed	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.10	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	1.3	0.02	0.02	0.09	0.02
Perfluorooctanoic acid PFOA	µg/L	0.02	<0.01	<0.01	<0.01	0.03
6:2 FTS	µg/L	<0.01	<0.01	<0.01	0.08	0.44
8:2 FTS	µg/L	<0.01	<0.01	<0.01	0.05	0.28
Surrogate $^{13}C_8$ *PFOS*	%	103	95	98	98	98
Surrogate $^{13}C_2$ *PFOA*	%	94	87	91	85	92
Extracted ISTD $^{18}O_2$ *PFHxS*	%	103	98	96	95	99
Extracted ISTD $^{13}C_4$ *PFOS*	%	94	101	98	97	98
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	100	98	102	86
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	100	98	100	101	156
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	93	89	91	91	92
Total Positive PFHxS & PFOS	µg/L	1.4	0.02	0.02	0.09	0.02
Total Positive PFOA & PFOS	µg/L	1.4	0.02	0.02	0.09	0.05
Total Positive PFAS	µg/L	1.5	0.02	0.02	0.22	0.77

PFAS in Waters Short						
Our Reference		210195-27	210195-28	210195-29	210195-30	210195-31
Your Reference	UNITS	188- Passenger Delivery	188- Driver Delivery	188- Monitor	188 - Tank	098-Driver Hose Reel
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Date analysed	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	<0.01	0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.04	0.03	0.03	0.02	0.02
8:2 FTS	µg/L	0.03	0.01	0.01	0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	97	96	97	101	102
Surrogate $^{13}C_2$ *PFOA*	%	93	92	84	89	87
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	95	91	94	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	98	98	96	97	95
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	100	100	100	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	91	98	96	98	98
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	92	96	89	94	100
Total Positive PFHxS & PFOS	µg/L	0.02	<0.01	0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.02	<0.01	0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.09	0.04	0.05	0.03	0.02

PFAS in Waters Short						
Our Reference		210195-32	210195-33	210195-34	210195-35	210195-36
Your Reference	UNITS	098- Passenger Hose Reel	098-Driver Delivery	098-Passenger Delivery	098- Monitor	098 - Tank
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Date analysed	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.02	0.02	<0.01	<0.01
8:2 FTS	µg/L	<0.01	0.02	0.02	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	100	100	98	97	98
Surrogate $^{13}C_2$ *PFOA*	%	90	86	87	93	85
Extracted ISTD $^{18}O_2$ *PFHxS*	%	91	96	91	92	84
Extracted ISTD $^{13}C_4$ *PFOS*	%	98	99	96	99	91
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	102	104	103	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	89	118	123	123	114
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	92	98	93	96	94
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	0.04	0.04	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210195-37	210195-38	210195-39	210195-40	210195-41
Your Reference	UNITS	1401- Passenger Hose Reel	FD03-MH	1401-Driver Hose Reel	1401-Driver Delivery	1401- Passenger Delivery
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Date analysed	-	25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	93	99	96	96	97
Surrogate $^{13}C_2$ *PFOA*	%	83	84	90	89	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	86	82	84	85	89
Extracted ISTD $^{13}C_4$ *PFOS*	%	95	89	92	89	92
Extracted ISTD $^{13}C_4$ *PFOA*	%	97	93	92	90	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	93	90	91	90	93
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	89	81	89	90	88
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01

PFAS in Waters Short			
Our Reference		210195-42	210195-43
Your Reference	UNITS	1401- Monitor	1401 - Tank
Date Sampled		23/01/2019	23/01/2019
Type of sample		water	water
Date prepared	-	25/01/2019	25/01/2019
Date analysed	-	25/01/2019	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	95	94
Surrogate $^{13}C_2$ *PFOA*	%	90	87
Extracted ISTD $^{18}O_2$ *PFHxS*	%	89	87
Extracted ISTD $^{13}C_4$ *PFOS*	%	93	88
Extracted ISTD $^{13}C_4$ *PFOA*	%	98	96
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	117	122
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	94	94
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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.
Org-035	Biota are homogenised and extracted with basified Methanol followed by SPE and/or Activated Charcoal clean-up, prior to analysis with LC-MS/MS. Samples analysed and reported on an as received basis and are therefore not corrected for moisture content. Preparation details are included in the Comments Section as required. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.1 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).

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			31/01/2019	[NT]	[NT]	[NT]	[NT]	31/01/2019	[NT]
Date analysed	-			31/01/2019	[NT]	[NT]	[NT]	[NT]	31/01/2019	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	124	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
6:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
8:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-035	107	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-035	83	[NT]	[NT]	[NT]	[NT]	86	[NT]
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-035	101	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD $^{13}C_4$ PFOS	%		Org-035	110	[NT]	[NT]	[NT]	[NT]	108	[NT]
Extracted ISTD $^{13}C_4$ PFOA	%		Org-035	104	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-035	116	[NT]	[NT]	[NT]	[NT]	111	[NT]
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	103	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: PFAS in Biota Short Suite						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	
Date prepared	-			31/01/2019	44	31/01/2019	31/01/2019		31/01/2019	[NT]
Date analysed	-			31/01/2019	44	31/01/2019	31/01/2019		31/01/2019	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	1	Org-035	<1	44	<1	<1	0	130	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	1	Org-035	<1	44	<1	<1	0	112	[NT]
Perfluorooctanoic acid PFOA	µg/kg	1	Org-035	<1	44	<1	<1	0	96	[NT]
6:2 FTS	µg/kg	1	Org-035	<1	44	<1	<1	0	106	[NT]
8:2 FTS	µg/kg	1	Org-035	<1	44	<1	<1	0	110	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	101	44	104	102	2	106	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	76	44	75	73	3	72	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	84	44	87	94	8	84	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	115	44	109	97	12	104	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	102	44	101	100	1	104	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	122	44	104	103	1	122	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	118	44	98	84	15	102	[NT]

QUALITY CONTROL: PFAS in Biota Short Suite						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	
Date prepared	-			[NT]	55	31/01/2019	31/01/2019		31/01/2019	[NT]
Date analysed	-			[NT]	55	31/01/2019	31/01/2019		31/01/2019	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	1	Org-035	[NT]	55	130	120	8	106	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	1	Org-035	[NT]	55	790	780	1	97	[NT]
Perfluorooctanoic acid PFOA	µg/kg	1	Org-035	[NT]	55	<5	<5	0	106	[NT]
6:2 FTS	µg/kg	1	Org-035	[NT]	55	<5	<5	0	118	[NT]
8:2 FTS	µg/kg	1	Org-035	[NT]	55	7	8	13	130	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	55	90	112	22	103	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	55	88	85	3	92	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	55	87	88	1	104	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	55	96	86	11	106	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	55	79	77	3	91	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	55	68	63	8	90	[NT]

QUALITY CONTROL: PFAS in Biota Short Suite						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	55	69	58	17	73	[NT]

QUALITY CONTROL: PFAS in Biota Short Suite						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	210195-45
Date prepared	-			[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	31/01/2019
Date analysed	-			[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	1	Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	130
Perfluorooctanesulfonic acid PFOS	µg/kg	1	Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	100
Perfluorooctanoic acid PFOA	µg/kg	1	Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	100
6:2 FTS	µg/kg	1	Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	106
8:2 FTS	µg/kg	1	Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	100
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	106
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	81
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	87
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	100
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	96
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	104
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]	89

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	210195-6
Date prepared	-			25/01/2019	5	25/01/2019	25/01/2019		25/01/2019	25/01/2019
Date analysed	-			25/01/2019	5	25/01/2019	25/01/2019		25/01/2019	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	5	<0.01	<0.01	0	103	113
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	5	0.09	0.09	0	107	105
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	5	0.02	0.02	0	104	100
6:2 FTS	µg/L	0.01	Org-035	<0.01	5	0.19	0.22	15	103	105
8:2 FTS	µg/L	0.01	Org-035	<0.01	5	0.06	0.07	15	107	100
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	99	5	105	97	8	99	96
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	91	5	89	93	4	97	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	99	5	102	94	8	99	91
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	96	5	95	97	2	97	97
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	97	5	103	97	6	95	96
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	91	5	101	89	13	87	95
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	89	5	91	86	6	91	98

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	210195-28
Date prepared	-			[NT]	15	25/01/2019	25/01/2019		[NT]	25/01/2019
Date analysed	-			[NT]	15	25/01/2019	25/01/2019		[NT]	25/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	15	<0.01	<0.01	0	[NT]	106
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	15	0.04	0.02	67	[NT]	99
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	15	<0.01	<0.01	0	[NT]	93
6:2 FTS	µg/L	0.01	Org-035	[NT]	15	0.1	0.06	50	[NT]	94
8:2 FTS	µg/L	0.01	Org-035	[NT]	15	0.04	0.02	67	[NT]	101
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	15	97	99	2	[NT]	95
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	15	94	87	8	[NT]	85
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	15	78	96	21	[NT]	90
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	15	91	97	6	[NT]	98
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	15	92	100	8	[NT]	99
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	15	90	96	6	[NT]	96

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	210195-28
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	15	93	90	3	[NT]	95

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	27	25/01/2019	25/01/2019		[NT]	[NT]
Date analysed	-			[NT]	27	25/01/2019	25/01/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	27	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	27	0.02	0.02	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	27	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	27	0.04	0.04	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	27	0.03	0.03	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	27	97	97	0	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	27	93	86	8	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	27	99	94	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	27	98	94	4	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	27	95	102	7	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	27	91	97	6	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	27	92	90	2	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	37	25/01/2019	25/01/2019		[NT]	[NT]
Date analysed	-			[NT]	37	25/01/2019	25/01/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	37	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	37	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	37	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	37	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	37	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	37	93	97	4	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	37	83	90	8	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	37	86	87	1	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	37	95	91	4	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	37	97	91	6	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	37	93	91	2	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	37	89	92	3	[NT]	[NT]

Result Definitions

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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
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NEPM	National Environmental Protection Measure
NR	Not Reported

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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.
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Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

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).

PFAS_BIOTA_EXT1: PQLs raised due to sample matrix interference.

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CERTIFICATE OF ANALYSIS 210195-A

Client Details

Client	GHD Pty Ltd
Attention	Joel Chance, Julian Howard, Dilara Valiff
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080, Largs North Station & Gallantry PFAS Test**
Number of Samples	6 soil, 37 water, 10 foliar, 2 eggs
Date samples received	24/01/2019
Date completed instructions received	04/02/2019

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	11/02/2019
Date of Issue	11/02/2019

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

Results Approved By
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Jacinta Hurst, Laboratory Manager

PFAs in Soils Short				
Our Reference		210195-A-1	210195-A-3	210195-A-4
Your Reference	UNITS	MBRIDGE-1	MBRIDGE-3	QA03
Date Sampled		22/01/2019	22/01/2019	22/01/2019
Type of sample		soil	soil	soil
Date prepared	-	06/02/2019	06/02/2019	06/02/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	2.1	9.3	2.8
Perfluorooctanesulfonic acid PFOS	µg/kg	57	100	52
Perfluorooctanoic acid PFOA	µg/kg	0.6	1.8	0.8
6:2 FTS	µg/kg	0.2	2.7	0.2
8:2 FTS	µg/kg	0.5	1.2	0.5
Surrogate $^{13}C_8$ *PFOS*	%	100	100	108
Surrogate $^{13}C_2$ *PFOA*	%	98	92	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%	101	89	106
Extracted ISTD $^{13}C_4$ *PFOS*	%	83	67	84
Extracted ISTD $^{13}C_4$ *PFOA*	%	86	68	93
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	104	54	100
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	89	#	79
Total Positive PFHxS & PFOS	µg/kg	59	110	55
Total Positive PFOS & PFOA	µg/kg	58	100	53
Total Positive PFAS	µg/kg	60	120	56

Moisture				
Our Reference		210195-A-1	210195-A-3	210195-A-4
Your Reference	UNITS	MBRIDGE-1	MBRIDGE-3	QA03
Date Sampled		22/01/2019	22/01/2019	22/01/2019
Type of sample		soil	soil	soil
Date prepared	-	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019
Moisture	%	2.8	8.0	2.2

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			06/02/2019	[NT]	[NT]	[NT]	[NT]	06/02/2019	[NT]
Date analysed	-			06/02/2019	[NT]	[NT]	[NT]	[NT]	06/02/2019	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
6:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
8:2 FTS	µg/kg	0.1	Org-035	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-035	106	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-035	97	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-035	95	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_4$ PFOS	%		Org-035	95	[NT]	[NT]	[NT]	[NT]	94	[NT]
Extracted ISTD $^{13}C_4$ PFOA	%		Org-035	101	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-035	95	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	90	[NT]	[NT]	[NT]	[NT]	86	[NT]

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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; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

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).

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
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GHD Mt Gambier
2A Helen St Mt Gambier SA 5290
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GHD Roxby Downs
1/14 Tutop St Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4009

Turnaround Requirement:
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☐ NON-STANDARD

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	GHD			K. Gore
Project		Date/Time:	Date/Time:	Date/Time:	Date/Time:
Largs North Station & Gallantry PFAS testing		24/1/19 1000			25.01.19 1900

GHD Project Manager	GHD Contact	Quote
Dilara Valiff	Dilara Valiff	19SA002

Email Reports to:
dilara.valiff@ghd.com joel.chance@ghd.com
julian.howard@ghd.com

SEND TO:

☐ ALS Laboratories
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Ph: 03 8549 9600
Contact:

☒ MGT LabMark
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Ph: 03 9564 7055
Contact:

☐ SGS
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Ph: 02 8594 0400
Contact:

☐ BUREAU VERITAS AMDEL
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

Analyses Required

	Sample I.D.	Date	Time	Sample Matrix: S: Soil, SL: Sludge, W: Water, A: Air	Container Type: J: Jar, B: Bag, V: Vial, G: Glass bottle, P: Plastic bottle	PFAS - SHORT - SUITE	Remarks
1	KAP641-RPS	22/1		W	P	/	
2	KAP641-RDS	22/1		W	P	/	
3	KAP641-DPS	22/1		W	P	/	
4	KAP641-DDS	22/1		W	P	/	
5	Tan 631-RPS	" "		W	P	/	
6	Tan 631-RDS	" "		W	P	/	
7	Tan 631-DPS	" "		W	P	/	
8	Tan 631-DDS	" "		W	P	/	
9	Tan 631-M	" "		W	P	/	
10	Tan 631-T	" "		W	P	/	
11	Tan 639-DDS	" "		W	P	/	
12	Tan 639-DPS	" "		W	P	/	
13	Tan 639-RPS	" "		W	P	/	
14	Tan 639-RDS	" "		W	P	/	
15	BER609-RDS	" "		W	P	/	
16	BER609-RPS	" "		W	P	/	
17	BER609-DDS	" "		W	P	/	
18	BER609-DPS	" "		W	P	/	
19	BER609-M	" "		W	P	/	
20	BER609-T	" "		W	P	/	

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 210370
Date Received: 25.01.19
Time Received: 19:30
Received by: ICH
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Remarks:

CHAIN OF CUSTODY RECORD

GHD

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Email: adlmail@ghd.com.au

GHD Mt Gambier
24 Helen St, Mt Gambier SA 5290
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GHD Roxby Downs
1/14 Tulloch St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement
☒ STANDARD
☐ NON-STANDARD

SEND TO: 210370

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	GHD	GHD		IC Core
Project		Date/Time:	Date/Time:	Date/Time:	Date/Time:
Largs North Station & Gallantry PFAS testing		24/1/19 1000	24/1/19		25-01-19 1900

GHD Project Manager	GHD Contact	Quote
Dilara Valiff	Dilara Valiff	IMSA 002

Email Reports to:
dilara.valiff@ghd.com joel.chance@ghd.com
julian.howard@ghd.com

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Ph: 03 8549 9600
Contact:

☒ MGT LabMark
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact:

☐ SGS
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact:

☐ BUREAU VERITAS AMDEL
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

	Sample ID.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar B: Bag V: Vial G: Glass bottle P: Plastic bottle	Analyses Required: PFAS - SHORT - SUITE	Remarks
21	BER601-T	22/1		W	P	✓	
22	BER601-DDS	22/1		W	P	✓	
23	BER601-DPS	22/1		W	P	✓	
24	BER601-RPS	22/1		W	P	✓	
25	BER601-RDS	22/1		W	P	✓	
26	BER601-M	22/1		W	P	✓	
27	BER601A-RPS	22/1		W	P	✓	
28	BER601A-DPS	22/1		W	P	✓	
29	REN208-DPS	23/1		W	P	✓	
30	REN208-RPS	23/1		W	P	✓	
31	REN165-T	23/1		W	P	✓	
32	REN165-RPS	23/1		W	P	✓	
33	REN165RDS	23/1		W	P	✓	
34	REN165-M	23/1		W	P	✓	
35	REN165-DPS	23/1		W	P	✓	
36	REN165-DDS	23/1		W	P	✓	
37	REN200-RPS	23/1		W	P	✓	
38	REN200-RDS	23/1		W	P	✓	
39	REN200-DDS	23/1		W	P	✓	
40	REN200-DPS	23/1		W	P	✓	

Remarks:

CHAIN OF CUSTODY RECORD

GHD

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Email: admail@ghd.com.au

GHD Mt Gambier
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Telephone: 618 8721 0800 Facsimile: 618 8721 0809

GHD Roxby Downs
1/14 Tullop St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement
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210370

SEND TO:

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	GHD			K. Gove
Project		Date/Time:	Date/Time:	Date/Time:	Date/Time:
Largs North Station & Gallantry PFAS testing		24/1/19 1600			25.01.19 1900

GHD Project Manager	GHD Contact
Dilara Valiff	Dilara Valiff
Email Reports to: dilara.valiff@ghd.com joel.chance@ghd.com julian.howard@ghd.com	Quote 19 SA 002

☐ ALS Laboratories
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Contact:

☑ MGT LabMark
2-5 Kingston Town Close, OAKLEIGH VIC 3166
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Contact:

☐ SGS
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact:

☐ BUREAU VERITAS AMDEL
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

	Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar B: Bag V: Vial G: Glass bottle P: Plastic bottle	PFAS - SHORT - SUITE	Analyses Required	Remarks
41	REN140-Pump	23/1		W	P	✓		
42	REN140-D	23/1		W	P	✓		
43	LOX202-RPS	23/1		W	P	✓		
44	LOX202-RDS	23/1		W	P	✓		
45	LOX202-DPS	23/1		W	P	✓		
46	LOX202-DDS	23/1		W	P	✓		
47	LOX202-T	23/1		W	P	✓		
48	LOX211-RPS	23/1		W	P	✓		
49	LOX211-DPS	23/1		W	P	✓		
50	RIN 1	22/1		W	P	✓		
51	RINS 2	23/1		W	P	✓		
52	KAP-1	22/1		S	J	✓		
53	KAP-2	22/1		S	J	✓		
54	TAN-1	22/1		S	J	✓		
55	TAN-2	22/1		S	J			HOLD
56	BER-1	22/1		S	J	✓		
57	BER-2	22/1		S	J	✓		
58	REN-1	23/1		S	J	✓		
59	REN-2	23/1		S	J	✓		
60	LOX-1	23/1		S	J	✓		

Remarks:

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
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Email adlmail@ghd.com.au

GHD Mt Gambier
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GHD Roxby Downs
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Telephone 618 8671 4000 Facsimile 618 8671 4099

Turnaround Requirement:
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SEND TO: 210370

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	GHD			K. Cuone
Project		Date/Time:	Date/Time:	Date/Time:	Date/Time:
Largs North Station & Gallantry PFAS testing		24/1/19 1000			25-01-19 1900

GHD Project Manager	GHD Contact	Quote
Dilara Valiff	Dilara Valiff	19SA002

Email Reports to:
dilara.valiff@ghd.com joel.chance@ghd.com
julian.howard@ghd.com

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Ph: 08 8440 7100
Contact:

	Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar, B: Bag, V: Vial G: Glass bottle, P: Plastic bottle	Analyses Required: PFAS - SHORT - SUITE	Remarks
61	LOX-2	23/1		S	J	✓	
62	~~QA07~~ QA07			S	J	✓	
63	QA08			S	J	✓	

Remarks:

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

CERTIFICATE OF ANALYSIS 210370

Client Details

Client	GHD Pty Ltd
Attention	Dilara Valiff
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080**
Number of Samples	51 water, 12 soil
Date samples received	25/01/2019
Date completed instructions received	25/01/2019

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	04/02/2019
Date of Issue	04/02/2019

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Results Approved By
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Jacinta Hurst, Laboratory Manager

PFAS in Waters Short						
Our Reference		210370-1	210370-2	210370-3	210370-4	210370-5
Your Reference	UNITS	KAP641-RPS	KAP641-RDS	KAP641-DPS	KAP641-DDS	Tan631-RPS
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	30/01/2019	30/01/2019	01/02/2019	30/01/2019	30/01/2019
Date analysed	-	30/01/2019	30/01/2019	01/02/2019	30/01/2019	30/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.02	<0.01	<0.01	0.12
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	0.01
6:2 FTS	µg/L	0.02	0.01	0.02	0.03	0.14
8:2 FTS	µg/L	0.02	0.02	0.02	0.03	0.11
Surrogate $^{13}C_8$ *PFOS*	%	98	98	101	99	105
Surrogate $^{13}C_2$ *PFOA*	%	84	88	96	86	81
Extracted ISTD $^{18}O_2$ *PFHxS*	%	93	98	86	96	115
Extracted ISTD $^{13}C_4$ *PFOS*	%	87	87	99	82	89
Extracted ISTD $^{13}C_4$ *PFOA*	%	86	88	98	84	76
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	100	88	89	86	167
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	74	80	86	70	80
Total Positive PFHxS & PFOS	µg/L	<0.01	0.02	<0.01	<0.01	0.13
Total Positive PFOA & PFOS	µg/L	<0.01	0.02	<0.01	<0.01	0.13
Total Positive PFAS	µg/L	0.04	0.05	0.03	0.06	0.39

PFAS in Waters Short						
Our Reference		210370-6	210370-7	210370-8	210370-9	210370-10
Your Reference	UNITS	Tan631-RDS	Tan631-DPS	Tan631-DDS	Tan631-M	Tan631-T
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	30/01/2019	30/01/2019	30/01/2019	30/01/2019	30/01/2019
Date analysed	-	30/01/2019	30/01/2019	30/01/2019	30/01/2019	30/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.02	0.03	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.28	0.36	0.02	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.02	0.03	<0.01	<0.01
6:2 FTS	µg/L	0.09	0.10	0.11	0.04	0.02
8:2 FTS	µg/L	0.05	0.07	0.07	0.05	0.05
Surrogate $^{13}C_8$ *PFOS*	%	103	100	100	105	99
Surrogate $^{13}C_2$ *PFOA*	%	82	81	85	89	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	92	98	82	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	84	86	90	73	81
Extracted ISTD $^{13}C_4$ *PFOA*	%	89	89	88	73	81
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	95	83	87	75	74
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	73	70	82	63	69
Total Positive PFHxS & PFOS	µg/L	<0.01	0.30	0.40	0.02	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.30	0.39	0.02	<0.01
Total Positive PFAS	µg/L	0.14	0.48	0.60	0.10	0.07

PFAS in Waters Short						
Our Reference		210370-11	210370-12	210370-13	210370-14	210370-15
Your Reference	UNITS	Tan639-DDS	Tan639-DPS	Tan639-RPS	Tan639-RDS	BER609-RDS
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	30/01/2019	30/01/2019	30/01/2019	30/01/2019	30/01/2019
Date analysed	-	30/01/2019	30/01/2019	30/01/2019	30/01/2019	30/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	0.02
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	0.1	0.15
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.01	<0.01	<0.01	0.02	<0.01
8:2 FTS	µg/L	0.01	<0.01	<0.01	0.02	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	93	101	103	94	106
Surrogate $^{13}C_2$ *PFOA*	%	85	85	82	77	80
Extracted ISTD $^{18}O_2$ *PFHxS*	%	92	96	92	95	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	86	84	80	85	89
Extracted ISTD $^{13}C_4$ *PFOA*	%	81	87	87	84	81
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	78	82	88	88	163
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	71	74	74	77	79
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	0.1	0.16
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	0.1	0.15
Total Positive PFAS	µg/L	0.03	<0.01	<0.01	0.13	0.16

PFAS in Waters Short						
Our Reference		210370-16	210370-17	210370-18	210370-19	210370-20
Your Reference	UNITS	BER609-RPS	BER609-DDS	BER609-DPS	BER609-M	BER609-T
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	30/01/2019	30/01/2019	30/01/2019	30/01/2019	30/01/2019
Date analysed	-	30/01/2019	30/01/2019	30/01/2019	30/01/2019	30/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.06	0.14	0.11	0.03	0.03
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.02	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	100	101	99	106	101
Surrogate $^{13}C_2$ *PFOA*	%	75	74	74	76	78
Extracted ISTD $^{18}O_2$ *PFHxS*	%	95	84	92	98	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	95	86	89	93	85
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	82	94	97	88
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	138	89	85	94	87
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	87	81	79	84	76
Total Positive PFHxS & PFOS	µg/L	0.06	0.15	0.11	0.03	0.03
Total Positive PFOA & PFOS	µg/L	0.06	0.14	0.11	0.03	0.03
Total Positive PFAS	µg/L	0.06	0.17	0.11	0.03	0.03

PFAS in Waters Short						
Our Reference		210370-21	210370-22	210370-23	210370-24	210370-25
Your Reference	UNITS	BER601-T	BER601-DDS	BER601-DPS	BER601-RPS	BER601-RDS
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	1.1	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	2.1	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.22	0.02	0.02	0.01
6:2 FTS	µg/L	<0.01	0.15	0.14	0.17	0.14
8:2 FTS	µg/L	<0.01	0.1	0.07	0.09	0.11
Surrogate $^{13}C_8$ *PFOS*	%	97	104	101	103	101
Surrogate $^{13}C_2$ *PFOA*	%	113	115	103	106	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%	104	89	103	101	102
Extracted ISTD $^{13}C_4$ *PFOS*	%	94	87	92	90	93
Extracted ISTD $^{13}C_4$ *PFOA*	%	92	84	95	92	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	91	83	84	109	88
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	87	86	88	92	87
Total Positive PFHxS & PFOS	µg/L	<0.01	3.2	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	2.4	0.02	0.02	0.01
Total Positive PFAS	µg/L	<0.01	3.7	0.23	0.28	0.26

PFAS in Waters Short						
Our Reference		210370-26	210370-27	210370-28	210370-29	210370-30
Your Reference	UNITS	BER601-M	BER6014-DPS	BER6014-DPS	REN208-DPS	REN208-RPS
Date Sampled		22/01/2019	22/01/2019	22/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.05	0.02	0.47	0.20
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.02	0.08	0.04	<0.01
6:2 FTS	µg/L	0.02	0.24	0.67	0.37	0.06
8:2 FTS	µg/L	0.02	0.17	0.27	0.87	0.06
Surrogate $^{13}C_8$ *PFOS*	%	105	101	99	100	97
Surrogate $^{13}C_2$ *PFOA*	%	108	107	111	103	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	101	106	91	98
Extracted ISTD $^{13}C_4$ *PFOS*	%	87	90	94	88	99
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	91	95	90	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	80	100	90	79	136
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	84	87	94	88	88
Total Positive PFHxS & PFOS	µg/L	<0.01	0.05	0.02	0.47	0.20
Total Positive PFOA & PFOS	µg/L	<0.01	0.07	0.1	0.52	0.20
Total Positive PFAS	µg/L	0.03	0.48	1.0	1.8	0.32

PFAS in Waters Short						
Our Reference		210370-31	210370-32	210370-33	210370-34	210370-35
Your Reference	UNITS	REN165-T	REN165-RPS	REN165-RDS	REN165-M	REN165-DPS
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	01/02/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.04	0.38	1.1	1.1	0.84
Perfluorooctanesulfonic acid PFOS	µg/L	0.40	2.0	1.3	10	6.2
Perfluorooctanoic acid PFOA	µg/L	0.03	0.23	1.2	1.2	0.77
6:2 FTS	µg/L	0.12	0.38	7.4	5.1	3.4
8:2 FTS	µg/L	0.04	0.14	0.32	0.66	0.47
Surrogate $^{13}C_8$ *PFOS*	%	93	99	97	99	106
Surrogate $^{13}C_2$ *PFOA*	%	101	91	97	94	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	96	94	84	79
Extracted ISTD $^{13}C_4$ *PFOS*	%	100	90	94	81	87
Extracted ISTD $^{13}C_4$ *PFOA*	%	93	94	90	84	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	86	112	84	71	80
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	88	92	96	70	87
Total Positive PFHxS & PFOS	µg/L	0.44	2.4	2.4	11	7.0
Total Positive PFOA & PFOS	µg/L	0.43	2.2	2.5	11	7.0
Total Positive PFAS	µg/L	0.64	3.1	11	18	12

PFAS in Waters Short						
Our Reference		210370-36	210370-37	210370-38	210370-39	210370-40
Your Reference	UNITS	REN165-DDS	REN200-RPS	REN200-RDS	REN200-DDS	REN200-DPS
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	1.8	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	12	0.06	0.05	0.06	0.07
Perfluorooctanoic acid PFOA	µg/L	0.87	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	3.7	0.03	<0.01	<0.01	<0.01
8:2 FTS	µg/L	0.43	0.01	0.02	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	102	101	102	102	103
Surrogate $^{13}C_2$ *PFOA*	%	96	93	100	97	92
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	100	97	94	103
Extracted ISTD $^{13}C_4$ *PFOS*	%	85	101	98	100	96
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	98	92	97	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	77	95	104	87	94
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	78	96	89	86	92
Total Positive PFHxS & PFOS	µg/L	14	0.06	0.05	0.06	0.07
Total Positive PFOA & PFOS	µg/L	13	0.06	0.05	0.06	0.07
Total Positive PFAS	µg/L	19	0.11	0.07	0.06	0.07

PFAS in Waters Short						
Our Reference		210370-41	210370-42	210370-43	210370-44	210370-45
Your Reference	UNITS	REN140-Pump	REN140-d	Lox202-RPS	Lox202-RDS	Lox202-DPS
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	0.02
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	98	103	97	106	103
Surrogate $^{13}C_2$ *PFOA*	%	104	107	100	95	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%	109	101	109	105	107
Extracted ISTD $^{13}C_4$ *PFOS*	%	99	90	97	87	107
Extracted ISTD $^{13}C_4$ *PFOA*	%	97	89	98	96	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	82	80	112	94	94
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	84	85	98	85	97
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	0.02
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	0.01	<0.01	0.02
Total Positive PFAS	µg/L	<0.01	<0.01	0.01	<0.01	0.02

PFAS in Waters Short						
Our Reference		210370-46	210370-47	210370-48	210370-49	210370-50
Your Reference	UNITS	Lox202-DDS	Lox202-T	Lox202li-RPS	Lox202li-DPS	Rin1
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.30	0.67	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	5.3	12	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.03	0.11	<0.01
6:2 FTS	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	92	101	97	95	102
Surrogate $^{13}C_2$ *PFOA*	%	105	111	106	104	106
Extracted ISTD $^{18}O_2$ *PFHxS*	%	103	105	105	96	104
Extracted ISTD $^{13}C_4$ *PFOS*	%	99	101	88	82	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	95	94	91	98
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	79	90	106	83	85
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	85	87	90	83	95
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	5.6	13	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	5.3	12	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	5.6	13	<0.01

PFAS in Waters Short		
Our Reference		210370-51
Your Reference	UNITS	Rins2
Date Sampled		23/01/2019
Type of sample		water
Date prepared	-	31/01/2019
Date analysed	-	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01
6:2 FTS	µg/L	<0.01
8:2 FTS	µg/L	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	99
Surrogate $^{13}C_2$ *PFOA*	%	107
Extracted ISTD $^{18}O_2$ *PFHxS*	%	105
Extracted ISTD $^{13}C_4$ *PFOS*	%	100
Extracted ISTD $^{13}C_4$ *PFOA*	%	92
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	87
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	88
Total Positive PFHxS & PFOS	µg/L	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01
Total Positive PFAS	µg/L	<0.01

PFAs in Soils Short						
Our Reference		210370-52	210370-53	210370-54	210370-56	210370-57
Your Reference	UNITS	kup-1	kup-2	Tan-1	Ber-1	Ber-2
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	2.3	1.0	<0.1	0.5	11
Perfluorooctanesulfonic acid PFOS	µg/kg	180	75	1.7	6.3	65
Perfluorooctanoic acid PFOA	µg/kg	0.5	1.1	0.2	0.4	14
6:2 FTS	µg/kg	0.1	0.5	<0.1	<0.1	0.5
8:2 FTS	µg/kg	<0.1	4.2	<0.1	<0.1	0.5
Surrogate $^{13}C_8$ *PFOS*	%	108	99	98	100	102
Surrogate $^{13}C_2$ *PFOA*	%	96	95	98	98	103
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	99	97	104	89
Extracted ISTD $^{13}C_4$ *PFOS*	%	89	106	107	105	91
Extracted ISTD $^{13}C_4$ *PFOA*	%	107	107	105	106	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	172	172	149	143	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	#	#	172	#	#
Total Positive PFHxS & PFOS	µg/kg	180	76	1.7	6.9	76
Total Positive PFOS & PFOA	µg/kg	180	76	1.9	6.8	79
Total Positive PFAS	µg/kg	180	82	1.9	7.3	91

PFAs in Soils Short						
Our Reference		210370-58	210370-59	210370-60	210370-61	210370-62
Your Reference	UNITS	Ren-1	Ren-2	Lox-1	Lox-2	QA07
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	2.0	0.1	1.2	0.1	0.5
Perfluorooctanesulfonic acid PFOS	µg/kg	26	1.1	23	0.8	5.8
Perfluorooctanoic acid PFOA	µg/kg	1.1	0.1	0.1	<0.1	0.4
6:2 FTS	µg/kg	0.6	<0.1	0.1	<0.1	0.1
8:2 FTS	µg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Surrogate $^{13}C_8$ *PFOS*	%	106	89	116	99	105
Surrogate $^{13}C_2$ *PFOA*	%	97	91	94	93	90
Extracted ISTD $^{18}O_2$ *PFHxS*	%	91	93	88	95	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	83	76	57	83	104
Extracted ISTD $^{13}C_4$ *PFOA*	%	72	76	89	58	108
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	101	76	181	76	143
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	78	67	185	56	#
Total Positive PFHxS & PFOS	µg/kg	28	1.2	25	0.9	6.3
Total Positive PFOS & PFOA	µg/kg	27	1.3	24	0.8	6.2
Total Positive PFAS	µg/kg	30	1.4	25	0.9	6.8

PFAs in Soils Short		
Our Reference		210370-63
Your Reference	UNITS	QA08
Date Sampled		23/01/2019
Type of sample		soil
Date prepared	-	01/02/2019
Date analysed	-	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.2
Perfluorooctanesulfonic acid PFOS	µg/kg	1.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.1
Surrogate $^{13}C_8$ *PFOS*	%	98
Surrogate $^{13}C_2$ *PFOA*	%	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%	95
Extracted ISTD $^{13}C_4$ *PFOS*	%	56
Extracted ISTD $^{13}C_4$ *PFOA*	%	57
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	79
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	62
Total Positive PFHxS & PFOS	µg/kg	1.3
Total Positive PFOS & PFOA	µg/kg	1.1
Total Positive PFAS	µg/kg	1.3

Moisture						
Our Reference		210370-52	210370-53	210370-54	210370-56	210370-57
Your Reference	UNITS	kup-1	kup-2	Tan-1	Ber-1	Ber-2
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	30/01/2019	30/01/2019	30/01/2019	30/01/2019	30/01/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Moisture	%	2.1	2.8	1.7	2.8	7.1

Moisture						
Our Reference		210370-58	210370-59	210370-60	210370-61	210370-62
Your Reference	UNITS	Ren-1	Ren-2	Lox-1	Lox-2	QA07
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		soil	soil	soil	soil	soil
Date prepared	-	30/01/2019	30/01/2019	30/01/2019	30/01/2019	30/01/2019
Date analysed	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Moisture	%	6.6	8.2	19	10	2.4

Moisture		
Our Reference		210370-63
Your Reference	UNITS	QA08
Date Sampled		23/01/2019
Type of sample		soil
Date prepared	-	30/01/2019
Date analysed	-	31/01/2019
Moisture	%	8.1

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	210370-2
Date prepared	-			30/01/2019	1	30/01/2019	30/01/2019		30/01/2019	30/01/2019
Date analysed	-			30/01/2019	1	30/01/2019	30/01/2019		30/01/2019	30/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	86	111
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	91	102
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	96	95
6:2 FTS	µg/L	0.01	Org-035	<0.01	1	0.02	0.03	40	93	104
8:2 FTS	µg/L	0.01	Org-035	<0.01	1	0.02	0.02	0	107	106
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	100	1	98	99	1	101	96
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	101	1	84	82	2	104	90
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	105	1	93	98	5	106	87
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	105	1	87	85	2	112	82
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	100	1	86	92	7	113	83
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	87	1	100	93	7	98	86
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	91	1	74	76	3	96	81

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	210370-22
Date prepared	-			[NT]	11	30/01/2019	30/01/2019		31/01/2019	31/01/2019
Date analysed	-			[NT]	11	30/01/2019	30/01/2019		31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	11	<0.01	<0.01	0	100	96
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	11	<0.01	<0.01	0	91	112
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	11	<0.01	<0.01	0	97	107
6:2 FTS	µg/L	0.01	Org-035	[NT]	11	0.01	0.02	67	105	111
8:2 FTS	µg/L	0.01	Org-035	[NT]	11	0.01	0.01	0	104	107
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	11	93	105	12	99	100
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	11	85	85	0	108	111
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	11	92	94	2	99	90
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	11	86	80	7	104	86
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	11	81	87	7	98	86
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	11	78	82	5	82	81

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	210370-22
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	11	71	72	1	90	84

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	210370-42
Date prepared	-			[NT]	21	31/01/2019	31/01/2019		31/01/2019	31/01/2019
Date analysed	-			[NT]	21	31/01/2019	31/01/2019		31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	21	<0.01	<0.01	0	94	80
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	21	<0.01	<0.01	0	89	105
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	21	<0.01	<0.01	0	98	114
6:2 FTS	µg/L	0.01	Org-035	[NT]	21	<0.01	<0.01	0	93	126
8:2 FTS	µg/L	0.01	Org-035	[NT]	21	<0.01	<0.01	0	103	120
Surrogate $^{13}C_8$ PFOS	%		Org-035	[NT]	21	97	99	2	104	101
Surrogate $^{13}C_2$ PFOA	%		Org-035	[NT]	21	113	105	7	101	103
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-035	[NT]	21	104	94	10	90	100
Extracted ISTD $^{13}C_4$ PFOS	%		Org-035	[NT]	21	94	90	4	100	97
Extracted ISTD $^{13}C_4$ PFOA	%		Org-035	[NT]	21	92	90	2	87	91
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-035	[NT]	21	91	83	9	88	80
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	21	87	87	0	93	83

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	31	31/01/2019	31/01/2019		[NT]	[NT]
Date analysed	-			[NT]	31	31/01/2019	31/01/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	31	0.04	0.04	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	31	0.40	0.41	2	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	31	0.03	0.03	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	31	0.12	0.13	8	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	31	0.04	0.04	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	31	93	101	8	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	31	101	98	3	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	31	96	94	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	31	100	95	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	31	93	92	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	31	86	82	5	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	31	88	83	6	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	41	31/01/2019	31/01/2019		[NT]	[NT]
Date analysed	-			[NT]	41	31/01/2019	31/01/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	41	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	41	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	41	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	41	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	41	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	41	98	103	5	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	41	104	106	2	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	41	109	104	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	41	99	93	6	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	41	97	95	2	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	41	82	84	2	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	41	84	89	6	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	51	31/01/2019	31/01/2019		[NT]	[NT]
Date analysed	-			[NT]	51	31/01/2019	31/01/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	51	99	101	2	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	51	107	105	2	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	51	105	100	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	51	100	95	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	51	92	88	4	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	51	87	83	5	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	51	88	85	3	[NT]	[NT]

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	210370-53
Date prepared	-			01/02/2019	52	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Date analysed	-			01/02/2019	52	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	<0.1	52	2.3	2.2	4	96	126
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1	52	180	170	6	110	##
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1	52	0.5	0.6	18	102	108
6:2 FTS	µg/kg	0.1	Org-035	<0.1	52	0.1	<0.1	0	112	120
8:2 FTS	µg/kg	0.1	Org-035	<0.1	52	<0.1	<0.1	0	120	106
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	98	52	108	107	1	103	90
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	99	52	96	98	2	103	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	106	52	99	99	0	102	90
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	106	52	89	88	1	96	103
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	108	52	107	105	2	99	107
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	105	52	172	184	7	94	159
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	115	52	#	#		107	#

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	63	01/02/2019	01/02/2019		[NT]	[NT]
Date analysed	-			[NT]	63	01/02/2019	01/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	[NT]	63	0.2	0.1	67	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	[NT]	63	1.1	0.7	44	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	[NT]	63	<0.1	<0.1	0	[NT]	[NT]
6:2 FTS	µg/kg	0.1	Org-035	[NT]	63	<0.1	<0.1	0	[NT]	[NT]
8:2 FTS	µg/kg	0.1	Org-035	[NT]	63	<0.1	<0.1	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	63	98	95	3	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	63	89	93	4	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	63	95	100	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	63	56	89	46	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	63	57	64	12	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	63	79	85	7	[NT]	[NT]

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	63	62	65	5	[NT]	[NT]

Result Definitions

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

Quality Control Definitions

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

Duplicates: >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; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

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).

PFAS_S_SHORT: ## Percent recovery is not possible to report due to high concentration of the analyte in the sample. However an acceptable recovery was obtained for the LCS.

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square Adelaide SA 5000
Telephone: 618 8111 6000 Facsimile: 618 8111 6099
Email: adimail@ghd.com.au

GHD Mt Gambier
2A Helen St Mt Gambier SA 5290
Telephone: 618 8721 0800 Facsimile: 618 8721 0899

GHD Roxby Downs
114 Tudor St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 2099

Turnaround Requirement
☒ STANDARD
☐ NON-STANDARD _____

SEND TO: ENVIROLAB SVC

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	Melyn Herbertt			
Project		Date/Time:	Date/Time:	Date/Time:	Date/Time:
Largs North Station & Gallantry PFAS testing		29-01-19			

GHD Project Manager	GHD Contact
Dilara Valiff	Dilara Valiff
Email Reports to: dilara.valiff@ghd.com joel.chance@ghd.com julian.howard@ghd.com	Quote 19SA002

☐ ALS Laboratories
2-4 Westall Rd, SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact

☒ MGT LabMark
5 Kingston Town Close OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact

☐ SGS
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 9400
Contact

☐ BUREAU VERITAS AMDEL
2/25 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact

	Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	PFAS - SHORT - SUITE	Remarks
1	ADL_TREE_1	29-1-19	-	FRUIT	B	✓	
2	DOSEMARK_ADL_2	9-1-19	-	CONSUMABLE	B	✓	
3	1102_WT	29-1-19		water	P	✓	
4	1102_WD_D	29-1-19		water	P	✓	
5	1102_WD_P	29-1-19		water	P	✓	
6	1102_H_D	29-1-19		water	P	✓	
7	1102_H_P	29-1-19		water	P	✓	
8	083_WT	29-1-19		water	P	✓	
9	083_M	29-1-19		water	P	✓	
10	083_WD_D	29-1-19		water	P	✓	
11	083_WD_P	29-1-19		water	P	✓	
12	083_H_D	29-1-19		water	P	✓	
13	083_H_P	29-1-19		water	P	✓	
14	ADELAIDE_1	29-1-19		Soil	P		on hold
15	ADELAIDE_2	29-1-19		Soil	P		on hold
16	ADL_RINSATE	29-1-19		water	P	✓	
17	DAM_1	29-1-19		water	P		on hold
18	ADE_DUP_1	29-1-19		Soil	P		on hold

Remarks:

ENVIROLAB
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 210421
Date Received: 30/1/19
Time Received: 10:26
Received by: LN
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

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

CERTIFICATE OF ANALYSIS 210421

Client Details

Client	GHD Pty Ltd
Attention	Joel Chance, Julian Howard, Dilara Valiff
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080**
Number of Samples	1 Fruit, 1 Consumable, 13 Water, 3 Soil
Date samples received	30/01/2019
Date completed instructions received	30/01/2019

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	06/02/2019
Date of Issue	04/02/2019

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

Results Approved By
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Jacinta Hurst, Laboratory Manager

PFAS in Waters Short						
Our Reference		210421-3	210421-4	210421-5	210421-6	210421-7
Your Reference	UNITS	1102_WT	1102_WD_D	1102_WD_P	1102_H_D	1102_H_H
Date Sampled		29/01/2019	29/01/2019	29/01/2019	29/01/2019	29/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.02	0.03	0.03	0.14	0.02
8:2 FTS	µg/L	<0.01	0.03	0.01	0.09	0.01
Surrogate $^{13}C_8$ *PFOS*	%	106	110	102	115	97
Surrogate $^{13}C_2$ *PFOA*	%	86	84	78	81	80
Extracted ISTD $^{18}O_2$ *PFHxS*	%	110	95	88	97	84
Extracted ISTD $^{13}C_4$ *PFOS*	%	104	99	106	106	116
Extracted ISTD $^{13}C_4$ *PFOA*	%	106	101	100	108	98
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	104	121	119	180	114
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	143	127	156	163	146
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.02	0.06	0.05	0.23	0.03

PFAS in Waters Short						
Our Reference		210421-8	210421-9	210421-10	210421-11	210421-12
Your Reference	UNITS	083_WT	083_M	083_WD_D	083_WD_P	083_H_D
Date Sampled		29/01/2019	29/01/2019	29/01/2019	29/01/2019	29/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	0.06
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	0.01
6:2 FTS	µg/L	0.07	0.08	0.07	0.06	0.45
8:2 FTS	µg/L	0.03	0.03	0.03	0.03	0.099
Surrogate $^{13}C_8$ *PFOS*	%	102	102	100	107	96
Surrogate $^{13}C_2$ *PFOA*	%	81	76	82	82	83
Extracted ISTD $^{18}O_2$ *PFHxS*	%	85	83	95	84	99
Extracted ISTD $^{13}C_4$ *PFOS*	%	104	106	105	102	106
Extracted ISTD $^{13}C_4$ *PFOA*	%	98	102	98	102	106
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	126	120	122	127	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	146	133	139	144	149
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	0.06
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	0.07
Total Positive PFAS	µg/L	0.1	0.10	0.09	0.09	0.61

PFAS in Waters Short			
Our Reference		210421-13	210421-16
Your Reference	UNITS	083_H_P	ADI_RINSATE
Date Sampled		29/01/2019	29/01/2019
Type of sample		Water	Water
Date prepared	-	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01
6:2 FTS	µg/L	0.07	<0.01
8:2 FTS	µg/L	0.02	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	102	102
Surrogate $^{13}C_2$ *PFOA*	%	85	82
Extracted ISTD $^{18}O_2$ *PFHxS*	%	91	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	100	111
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	111	129
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	143	163
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01
Total Positive PFAS	µg/L	0.09	<0.01

PFAS in Biota Short			
Our Reference		210421-1	210421-2
Your Reference	UNITS	ADL_TREE_1	ROSEMARY_ADL
Date Sampled		29/01/2019	29/01/2019
Type of sample		Fruit	Consumable
Date prepared	-	31/01/2019	31/01/2019
Date analysed	-	31/01/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	8	18
Perfluorooctanesulfonic acid PFOS	µg/kg	15	110
Perfluorooctanoic acid PFOA	µg/kg	<1	<10
6:2 FTS	µg/kg	<1	<10
8:2 FTS	µg/kg	<1	<10
Surrogate $^{13}C_8$ *PFOS*	%	88	104
Surrogate $^{13}C_2$ *PFOA*	%	84	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%	103	111
Extracted ISTD $^{13}C_4$ *PFOS*	%	116	105
Extracted ISTD $^{13}C_4$ *PFOA*	%	105	88
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	104	101
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	102	93
Total Positive PFHxS & PFOS	µg/kg	23	130
Total Positive PFOS & PFOA	µg/kg	15	110

Method ID	Methodology Summary
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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.
Org-035	Biota are homogenised and extracted with basified Methanol followed by SPE and/or Activated Charcoal clean-up, prior to analysis with LC-MS/MS. Samples analysed and reported on an as received basis and are therefore not corrected for moisture content. Preparation details are included in the Comments Section as required. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.1 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).

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	210421-4
Date prepared	-			01/02/2019	3	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Date analysed	-			01/02/2019	3	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	3	<0.01	<0.01	0	93	104
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	3	<0.01	<0.01	0	94	95
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	3	<0.01	<0.01	0	87	85
6:2 FTS	µg/L	0.01	Org-035	<0.01	3	0.02	0.02	0	96	95
8:2 FTS	µg/L	0.01	Org-035	<0.01	3	<0.01	<0.01	0	102	118
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	110	3	106	94	12	109	98
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	93	3	86	87	1	88	85
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	103	3	110	110	0	102	98
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	106	3	104	112	7	109	105
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	103	3	106	105	1	101	99
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	100	3	104	118	13	99	121
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	116	3	143	133	7	117	126

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	12	01/02/2019	01/02/2019		[NT]	[NT]
Date analysed	-			[NT]	12	01/02/2019	01/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	12	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	12	0.06	0.06	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	12	0.01	0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	12	0.45	0.45	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	12	0.099	0.11	11	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	12	96	93	3	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	12	83	86	4	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	12	99	90	10	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	12	106	108	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	12	106	107	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	12	#	#		[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	12	149	146	2	[NT]	[NT]

QUALITY CONTROL: PFAS in Biota Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			31/01/2019	1	31/01/2019	31/01/2019		31/01/2019	[NT]
Date analysed	-			31/01/2019	1	31/01/2019	31/01/2019		31/01/2019	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	1	Org-035	<1	1	8	8	0	128	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	1	Org-035	<1	1	15	17	12	112	[NT]
Perfluorooctanoic acid PFOA	µg/kg	1	Org-035	<1	1	<1	<1	0	96	[NT]
6:2 FTS	µg/kg	1	Org-035	<1	1	<1	<1	0	106	[NT]
8:2 FTS	µg/kg	1	Org-035	<1	1	<1	<1	0	110	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	101	1	88	103	16	106	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	76	1	84	87	4	72	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	84	1	103	118	14	84	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	115	1	116	105	10	104	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	102	1	105	101	4	104	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	122	1	104	122	16	122	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	118	1	102	84	19	102	[NT]

Result Definitions

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

Quality Control Definitions

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

Duplicates: >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; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

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).

PFAS_BIOTA_EXT1: PQLs raised due to sample matrix interference.

1/6.

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 44

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Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Office - Envirolab Services
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Ph 0406 350 706 / adelaide@envirolab.com.au

Client: GHD Pty Ltd

Contact Person: Joel Chance / Jacinta Kracman

Project Mgr: Dilara Valiff

Sampler: Joel Chance / Jacinta Kracman

Address: Level 4, 211 Victoria Square. Adelaide. SA. 5000

Phone: Mob: 0439 277 657

Email: joel.chance@ghd.com, jacinta.kracman@ghd.com, dilara.valiff@ghd.com

Client Project Name / Number / Site etc (ie report title): 3319080 - SAMFS PFAS Investigation

PO No.:

Envirolab Quote No. : 19SA002

Date results required: Standard

Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Report format: esdat

Lab Comments:

Sample information					Tests Required	Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	PFAS (Short Suite)	Provide as much information about the sample as you can
1	Gawler_1		21/01/2019	Soil	X	
2	Gawler_2		21/01/2019	Soil	X	
3	1304_WT		21/01/2019	Water	X	
4	1304_H_P		21/01/2019	Water	X	
5	1304_H_D		21/01/2019	Water	X	
6	1304_WD_P		21/01/2019	Water	X	
7	1304_WD_D		21/01/2019	Water	X	
8	1304_Monitor		21/01/2019	Water	X	
9	Salisbury_1		21/01/2019	Soil	X	
10	Salisbury_2		21/01/2019	Soil	X	
11	1704_WT		21/01/2019	Water	X	
12	1704_H_P		21/01/2019	Water	X	
13	1704_H_D		21/01/2019	Water	X	
14	1704_WD_P		21/01/2019	Water	X	
15	1704_WD_D		21/01/2019	Water	X	
16	1704_Monitor		21/01/2019	Water	X	
17	1006_WT		21/01/2019	Water	X	
18	1006_H_P		21/01/2019	Water	X	
19	1006_H_D		21/01/2019	Water	X	
20	1006_WD_P		21/01/2019	Water	X	
21	1006_WD_D		21/01/2019	Water	X	
22	1006_Monitor		21/01/2019	Water	X	
23	204_WD_P		21/01/2019	Water	X	
24	204_FHR_P		21/01/2019	Water	X	
25	204_WT		21/01/2019	Water	X	

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 210445

Date Received: 25/1/2019 $30/1/19 10:26.

Time Received: 19:00

Received By: JN

Temp: Cool/Ambient

Cooling: Ice/Icepack

Security: Intact/Broken/None

26	204_DB_D		21/01/2019	Water	X															
27	Golden Grove_1		21/01/2019	Soil	X															
28	Golden Grove_2		21/01/2019	Soil	X															
29	Golden Grove_Lime		21/01/2019	Biota	X															
30	1701_WT		21/01/2019	Water	X															
31	1701_H_P		21/01/2019	Water	X															
32	1701_H_D		21/01/2019	Water	X															
33	1701_WD_P		21/01/2019	Water	X															
34	1701_WD_D		21/01/2019	Water	X															
35	1701_Monitor		21/01/2019	Water	X															
36	Paradise_1		21/01/2019	Soil	X															
37	Paradise_2		21/01/2019	Soil	X															
38	1305_WT		21/01/2019	Water	X															
39	1305_H_P		21/01/2019	Water	X															
40	1305_H_D		21/01/2019	Water	X															
41	1305_WD_P		21/01/2019	Water	X															
42	1305_WD_D		21/01/2019	Water	X															
43	1305_Monitor		21/01/2019	Water	X															
44	O'Halloran_1		21/01/2019	Soil	X															
45	O'Halloran_2		21/01/2019	Soil	X															
46	1002_WT		21/01/2019	Water	X															
47	1002_H_P		21/01/2019	Water	X															
48	1002_H_D		21/01/2019	Water	X															
49	1002_WD_P		21/01/2019	Water	X															
50	1002_WD_D		21/01/2019	Water	X															
51	1002_Monitor		21/01/2019	Water	X															
52	Christie_1		21/01/2019	Soil	X															
53	Christie_2		21/01/2019	Soil	X															
54	1702_WT		21/01/2019	Water	X															
55	1702_H_P		21/01/2019	Water	X															
56	1702_H_D		21/01/2019	Water	X															
57	1702_WD_P		21/01/2019	Water	X															
58	1702_WD_D		21/01/2019	Water	X															
59	1702_Monitor		21/01/2019	Water	X															
60	1603_WT		21/01/2019	Water	X															
61	1603_H_P		21/01/2019	Water	X															
62	1603_H_D		21/01/2019	Water	X															
63	1603_WD_P		21/01/2019	Water	X															
64	1603_WD_D		21/01/2019	Water	X															
65	1603_Monitor		21/01/2019	Water	X															
66	Christie_Lime		21/01/2019	Biota	X															
67	Christie_Apricot		21/01/2019	Biota	X															
68	Seaford_1		21/01/2019	Soil	X															
69	Seaford_2		21/01/2019	Soil	X															
70	1001_WT		21/01/2019	Water	X															
71	1001_H_P		21/01/2019	Water	X															

72	1001_H_D		21/01/2019	Water	X															
73	1001_WD_P		21/01/2019	Water	X															
74	1001_WD_D		21/01/2019	Water	X															
75	1001_Monitor		21/01/2019	Water	X															
76	Prospect_1		22/01/2019	Soil	X															
77	Prospect_2		22/01/2019	Soil	X															
78	Prospect_Lime		22/01/2019	Biota	X															
79	Prospect_Lemon		22/01/2019	Biota	X															
80	081_WT		22/01/2019	Water	X															
81	081_H_P		22/01/2019	Water	X															
82	081_H_D		22/01/2019	Water	X															
83	081_WD_P		22/01/2019	Water	X															
84	081_WD_D		22/01/2019	Water	X															
85	081_Monitor		22/01/2019	Water	X															
86	Angle_1		22/01/2019	Soil	X															
87	Angle_2		22/01/2019	Soil	X															
88	1303_WT		22/01/2019	Water	X															
89	1303_H_P		22/01/2019	Water	X															
90	1303_H_D		22/01/2019	Water	X															
91	1303_WD_P		22/01/2019	Water	X															
92	1303_WD_D		22/01/2019	Water	X															
93	1303_Monitor		22/01/2019	Water	X															
94	PortAdelaide_1		22/01/2019	Soil	X															
95	PortAdelaide_2		22/01/2019	Soil	X															
96	PortAdelaide_EGGS		22/01/2019	Biota	X															10 x Eggs. Composite sample. Test Egg White and Egg Yolk seperately
97	1301_WT		22/01/2019	Water	X															
98	1301_H_P		22/01/2019	Water	X															
99	1301_H_D		22/01/2019	Water	X															
100	1301_WD_P		22/01/2019	Water	X															
101	1301_WD_D		22/01/2019	Water	X															
102	1301_Monitor		22/01/2019	Water	X															
103	Woodville_1		22/01/2019	Soil	X															
104	Woodville_2		22/01/2019	Soil	X															
105	1008_WT		22/01/2019	Water	X															
106	1008_H_P		22/01/2019	Water	X															
107	1008_H_D		22/01/2019	Water	X															
108	1008_WD_P		22/01/2019	Water	X															
109	1008_WD_D		22/01/2019	Water	X															
110	1008_Monitor		22/01/2019	Water	X															
111	1707_WT		22/01/2019	Water	X															
112	1707_H_P		22/01/2019	Water	X															
113	1707_H_D		22/01/2019	Water	X															
114	1707_WD_P		22/01/2019	Water	X															
115	1707_WD_D		22/01/2019	Water	X															

116	1707_Monitor		22/01/2019	Water	X																				
—	Woodville_Apricot		22/01/2019	Biota	X																				
—	Woodville_Lemon		22/01/2019	Biota	X																				
117	Woodville_Lime		22/01/2019	Biota	X																				
118	Woodville_Peach		22/01/2019	Biota	X																				
—	Woodville_Nectarine		22/01/2019	Biota	X																				
119	Woodville_Grapes		22/01/2019	Biota	X																				
120	Woodville_Tomatoes		22/01/2019	Biota	X																				
121	Woodville_Apple		22/01/2019	Biota	X																				
122	Elizabeth_1		22/01/2019	Soil	X																				
123	Elizabeth_2		22/01/2019	Soil	X																				
124	Elizabeth_Lime		22/01/2019	Biota	X																				
—	Elizabeth_Lemon		22/01/2019	Biota	X																				
125	193_WT		22/01/2019	Water	X																				
126	193_H_P		22/01/2019	Water	X																				
127	193_H_D		22/01/2019	Water	X																				
128	193_WD_P		22/01/2019	Water	X																				
129	193_WD_D		22/01/2019	Water	X																				
130	193_Monitor		22/01/2019	Water	X																				
131	1103_WT		22/01/2019	Water	X																				
132	1103_H_P		22/01/2019	Water	X																				
133	1103_H_D		22/01/2019	Water	X																				
134	1103_WD_P		22/01/2019	Water	X																				
135	1103_WD_D		22/01/2019	Water	X																				
136	1103_Monitor		22/01/2019	Water	X																				
137	Beulah_1		22/01/2019	Soil	X																				
138	Beulah_2		22/01/2019	Soil	X																				
139	080_WT		22/01/2019	Water	X																				
140	080_H_P		22/01/2019	Water	X																				
141	080_H_D		22/01/2019	Water	X																				
142	080_WD_P		22/01/2019	Water	X																				
143	080_WD_D		22/01/2019	Water	X																				
144	080_Monitor		22/01/2019	Water	X																				
145	Beulah_Lemon		22/01/2019	Biota	X																				
146	187_WT		23/01/2018	Water	X																				
147	187_H_P		23/01/2018	Water	X																				
148	187_H_D		23/01/2018	Water	X																				
149	187_WD_P		23/01/2018	Water	X																				
150	187_WD_D		23/01/2018	Water	X																				
151	187_Monitor		23/01/2018	Water	X																				
152	1012_WT		23/01/2018	Water	X																				
153	1012_H_P		23/01/2018	Water	X																				
154	1012_H_D		23/01/2018	Water	X																				
155	1012_WD_P		23/01/2018	Water	X																				
156	1012_WD_D		23/01/2018	Water	X																				
157	1012_Monitor		23/01/2018	Water	X																				

158	087_WT		23/01/2018	Water	X																	
159	087_H_P		23/01/2018	Water	X																	
160	087_H_D		23/01/2018	Water	X																	
161	087_WD_P		23/01/2018	Water	X																	
162	087_WD_D		23/01/2018	Water	X																	
163	087_Monitor		23/01/2018	Water	X																	
164	QA01_WT_JC		23/01/2018	Water	X																	
165	QA01_H_P_JC		23/01/2018	Water	X																	
166	QA01_H_D_JC		23/01/2018	Water	X																	
167	QA01_WD_P_JC		23/01/2018	Water	X																	
168	QA01_WD_D_JC		23/01/2018	Water	X																	
169	QA01_Monitor_JC		23/01/2018	Water	X																	
170	QA02_WT_JC		23/01/2018	Water	X																	
171	QA02_H_P_JC		23/01/2018	Water	X																	
172	QA02_H_D_JC		23/01/2018	Water	X																	
173	QA02_WD_P_JC		23/01/2018	Water	X																	
174	QA02_WD_D_JC		23/01/2018	Water	X																	
175	QA02_Monitor_JC		23/01/2018	Water	X																	
176	RB01		21/02/2019	Water	X																	
177	RB02		22/02/2019	Water	X																	
178	RB03		23/09/2019	Water	X																	
179	RB04		25/01/2019	Water	X																	
180	BROOKLYN_1		23/01/2019	soil	X																	
181	BROOKLYN_2		23/01/2019	soil	X																	
182	BROOKLYN_GRAPE		23/01/2019	fruit	X																	
183	BROOKLYN_NECTARINE		23/01/2019	fruit	X																	
184	1007_M		23/01/2019	water	X																	
185	1007_WT		23/01/2019	water	X																	
186	1007_WD_P		23/01/2019	water	X																	
187	1007_WD_D		23/01/2019	water	X																	
188	1007_H_P		23/01/2019	water	X																	
189	1007_H_D		23/01/2019	water	X																	
190	CAMDEN_1		23/01/2019	soil	X																	
191	CAMDEN_2		23/01/2019	soil	X																	
192	1009_M		23/01/2019	water	X																	
193	1009_WT		23/01/2019	water	X																	
194	1009_WD_P		23/01/2019	water	X																	
195	1009_WD_D		23/01/2019	water	X																	
196	1009_H_P		23/01/2019	water	X																	
197	1009_H_D		23/01/2019	water	X																	
198	STMARYS_1		23/01/2019	soil	X																	
199	STMARYS_2		23/01/2019	soil	X																	
200	STMARYS_LEMON		23/01/2019	fruit	X																	
201	STMARYS_ORANGE		23/01/2019	fruit	X																	
202	STMARYS_NECTARINE		23/01/2019	fruit	X																	
203	1706_M		23/01/2019	water	X																	

204 59	1706_WT		23/01/2019	water	X															
205	1706_WD_P		23/01/2019	water	X															
206	1706_WD_D		23/01/2019	water	X															
207	1706_H_P		23/01/2019	water	X															
208	1706_H_D		23/01/2019	water	X															
209	1005_M		23/01/2019	water	X															
210	1005_WT		23/01/2019	water	X															
211	1005_WD_P		23/01/2019	water	X															
212	1005_WD_D		23/01/2019	water	X															
—	1005_H_P		23/01/2019	water	X															
—	1005_H_D		23/01/2019	water	X															
213	TRAIN_1		25/01/2019	soil	X															
214	TRAIN_2		25/01/2019	soil	X															
215	189_M		25/01/2019	water	X															
216	189_WT		25/01/2019	water	X															
217	189_WD_P		25/01/2019	water	X															
218	189_WD_D		25/01/2019	water	X															
219	189_H_P		25/01/2019	water	X															
220	189_H_D		25/01/2019	water	X															
221	194_M		25/01/2019	water	X															
222	194_WT		25/01/2019	water	X															
223	194_WD_P		25/01/2019	water	X															
224	194_WD_D		25/01/2019	water	X															
225	194_H_P		25/01/2019	water	X															
226	194_H_D		25/01/2019	water	X															
227	163_M		25/01/2019	water	X															
228	163_WT		25/01/2019	water	X															
229	163_WD_P		25/01/2019	water	X															
230	163_WD_D		25/01/2019	water	X															
231	163_H_P		25/01/2019	water	X															
232	163_H_D		25/01/2019	water	X															
233	164_M		25/01/2019	water	X															
234	164_WT		25/01/2019	water	X															
235	164_WD_P		25/01/2019	water	X															
236	164_WD_D		25/01/2019	water	X															
237	164_H_P		25/01/2019	water	X															
238	164_H_D		25/01/2019	water	X															

Relinquished by (Company):	GHD Pty Ltd	Received by (Company): ECS Sydney	*Lab use only:*
Print Name:	Jacinta Kracman	Print Name: T. Nguyen	Samples Received: Cool or Ambient (circle one)
Date & Time:	24/01/2019	Date & Time: 25/1/19 19:00	Temperature Received at: (if applicable)
Signature:	JK	Signature:	Transported by: Hand delivered / courier

239 Paradise_Apricot. (Extra)

White - Lab copy / Blue - Client copy / Pink - Retain in Book

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SAMPLE RECEIPT ADVICE

Client Details

Client	GHD Pty Ltd
Attention	Joel Chance, Jacinta Kracman

Sample Login Details

Your reference	3319080
Envirolab Reference	210445
Date Sample Received	25/01/2019
Date Instructions Received	25/01/2019
Date Results Expected to be Reported	14/02/2019

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	34 Soil, 187 Water, 13 Biota, 34 Soil, 34 soil, 5 fruit, 187 water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	25
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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Sample ID	PFAS in Waters Short	PFAs in Soils Short	PFAS in BiotaExtended Suite
Gawler_1		✓	
Gawler_2		✓	
1304_WT	✓		
1304_H_P	✓		
1304_H_D	✓		
1304_WD_P	✓		
1304_WD_D	✓		
1304_Monitor	✓		
Salisbury_1		✓	
Salisbury_2		✓	
1704_WT	✓		
1704_H_P	✓		
1704_H_D	✓		
1704_WD_P	✓		
1704_WD_D	✓		
1704_Monitor	✓		
1006_WT	✓		
1006_H_P	✓		
1006_H_D	✓		
1006_WD_P	✓		
1006_WD_D	✓		
1006_Monitor	✓		
204_WD_P	✓		
204_FHR_P	✓		
204_WT	✓		
204_DB_D	✓		
Golden Grove_1		✓	
Golden Grove_2		✓	
Golden Grove_Lime			✓
1701_WT	✓		
1701_H_P	✓		
1701_H_D	✓		

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Sample ID	PFAS in Waters Short	PFAs in Soils Short	PFAS in BiotaExtended Suite
1701_WD_P	✓		
1701_WD_D	✓		
1701_Monitor	✓		
Paradise_1		✓	
Paradise_2		✓	
1305_WT	✓		
1305_H_P	✓		
1305_H_D	✓		
1305_WD_P	✓		
1305_WD_D	✓		
1305_Monitor	✓		
OHalloran_1		✓	
OHalloran_2		✓	
1002_WT	✓		
1002_H_P	✓		
1002_H_D	✓		
1002_WD_P	✓		
1002_WD_D	✓		
1002_Monitor	✓		
Christie_1		✓	
Christie_2		✓	
1702_WT	✓		
1702_H_P	✓		
1702_H_D	✓		
1702_WD_P	✓		
1702_WD_D	✓		
1702_Monitor	✓		
1603_WT	✓		
1603_H_P	✓		
1603_H_D	✓		
1603_WD_P	✓		
1603_WD_D	✓		

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Sample ID	PFAS in Waters Short	PFAs in Soils Short	PFAS in BiotaExtended Suite
1603_Monitor	✓		
Christie_Lime			✓
Christie_Apricot			✓
Seaford_1		✓	
Seaford_2		✓	
1001_WT	✓		
1001_H_P	✓		
1001_H_D	✓		
1001_WD_P	✓		
1001_WD_D	✓		
1001_Monitor	✓		
Prospect_1		✓	
Prospect_2		✓	
Prospect_Lime			✓
Prospect_Lemon			✓
081_WT	✓		
081_H_P	✓		
081_H_D	✓		
081_WD_P	✓		
081_WD_D	✓		
081_Monitor	✓		
Angle_1		✓	
Angle_2		✓	
1303_WT	✓		
1303_H_P	✓		
1303_H_D	✓		
1303_WD_P	✓		
1303_WD_D	✓		
1303_Monitor	✓		
PortAdelaide_1		✓	
PortAdelaide_2		✓	
PortAdelaide_EGGS			✓

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Sample ID	PFAS in Waters Short	PFAs in Soils Short	PFAS in BiotaExtended Suite
1301_WT	✓		
1301_H_P	✓		
1301_H_D	✓		
1301_WD_P	✓		
1301_WD_D	✓		
1301_Monitor	✓		
Woodville_1		✓	
Woodville_2		✓	
1008_WT	✓		
1008_H_P	✓		
1008_H_D	✓		
1008_WD_P	✓		
1008_WD_D	✓		
1008_Monitor	✓		
1707_WT	✓		
1707_H_P	✓		
1707_H_D	✓		
1707_WD_P	✓		
1707_WD_D	✓		
1707_Monitor	✓		
Woodville_Lime			✓
Woodville_Peach			✓
Woodville_Grapes			✓
Woodville_Tomatoes			✓
Woodville_Apple			✓
Elizabeth_1		✓	
Elizabeth_2		✓	
Elizabeth_Lime			✓
193_WT	✓		
193_H_P	✓		
193_H_D	✓		
193_WD_P	✓		

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Sample ID	PFAS in Waters Short	PFAs in Soils Short	PFAS in BiotaExtended Suite
193_WD_D	✓		
193_Monitor	✓		
1103_WT	✓		
1103_H_P	✓		
1103_H_D	✓		
1103_WD_P	✓		
1103_WD_D	✓		
1103_Monitor	✓		
Beulah_1		✓	
Beulah_2		✓	
080_WT	✓		
080_H_P	✓		
080_H_D	✓		
080_WD_P	✓		
080_WD_D	✓		
080_Monitor	✓		
Beulah_Lemon			✓
187_WT	✓		
187_H_P	✓		
187_H_D	✓		
187_WD_P	✓		
187_WD_D	✓		
187_Monitor	✓		
1012_WT	✓		
1012_H_P	✓		
1012_H_D	✓		
1012_WD_P	✓		
1012_WD_D	✓		
1012_Monitor	✓		
087_WT	✓		
087_H_P	✓		
087_H_D	✓		

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Sample ID	PFAS in Waters Short	PFAs in Soils Short	PFAS in BiotaExtended Suite
087_WD_P	✓		
087_WD_D	✓		
087_Monitor	✓		
QA01_WT_JC	✓		
QA01_H_P_JC	✓		
QA01_H_D_JC	✓		
QA01_WD_P_JC	✓		
QA01_WD_D_JC	✓		
QA01_Monitor_JC	✓		
QA02_WT_JC	✓		
QA02_H_P_JC	✓		
QA02_H_D_JC	✓		
QA02_WD_P_JC	✓		
QA02_WD_D_JC	✓		
QA02_Monitor_JC	✓		
RB01	✓		
RB02	✓		
RB03	✓		
RB04	✓		
BROOKLYN_1		✓	
BROOKLYN_2		✓	
BROOKLYN_GRAPE			✓
BROOKLYN_NECTARI			✓
1007_M	✓		
1007_WT	✓		
1007_WD_P	✓		
1007_WD_D	✓		
1007_H_P	✓		
1007_H_D	✓		
CAMDEN_1		✓	
CAMDEN_2		✓	
1009_M	✓		

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Sample ID	PFAS in Waters Short	PFAs in Soils Short	PFAS in BiotaExtended Suite
1009_WT	✓		
1009_WD_P	✓		
1009_WD_D	✓		
1009_H_P	✓		
1009_H_D	✓		
STMARYS_1		✓	
STMARYS_2		✓	
STMARYS_LEMON			✓
STMARYS_ORANGE			✓
STMARYS_NECTARINE			✓
1706_M	✓		
1706_WT	✓		
1706_WD_P	✓		
1706_WD_D	✓		
1706_H_P	✓		
1706_H_D	✓		
1005_M	✓		
1005_WT	✓		
1005_WD_P	✓		
1005_WD_D	✓		
TRAIN_1		✓	
TRAIN_2		✓	
189_M	✓		
189_WT	✓		
189_WD_P	✓		
189_WD_D	✓		
189_H_P	✓		
189_H_D	✓		
194_M	✓		
194_WT	✓		
194_WD_P	✓		
194_WD_D	✓		

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Sample ID	PFAS in Waters Short	PFAs in Soils Short	PFAS in BiotaExtended Suite
194_H_P	✓		
194_H_D	✓		
163_M	✓		
163_WT	✓		
163_WD_P	✓		
163_WD_D	✓		
163_H_P	✓		
163_H_D	✓		
164_M	✓		
164_WT	✓		
164_WD_P	✓		
164_WD_D	✓		
164_H_P	✓		
164_H_D	✓		
Paradise_apricot			✓

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.

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CERTIFICATE OF ANALYSIS 210445

Client Details

Client	GHD Pty Ltd
Attention	Joel Chance, Jacinta Kracman
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080**
Number of Samples	35 Soil, 186 Water, 15 Biota, 35 Soil, 35 soil, 5 fruit, 186 water
Date samples received	25/01/2019
Date completed instructions received	25/01/2019

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	14/02/2019
Date of Issue	13/02/2019

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Results Approved By
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Jacinta Hurst, Laboratory Manager

PFAS in Waters Short						
Our Reference		210445-3	210445-4	210445-5	210445-6	210445-7
Your Reference	UNITS	1304_WT	1304_H_P	1304_H_D	1304_WD_P	1304_WD_D
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	94	103	104	108	104
Surrogate $^{13}C_2$ *PFOA*	%	94	100	100	97	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	105	100	114	100	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	104	94	98	95	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	98	90	92	92	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	117	105	117	119	108
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	148	135	145	129	131
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-8	210445-11	210445-12	210445-13	210445-14
Your Reference	UNITS	1304_Monitor	1704_WT	1704_H_P	1704_H_D	1704_WD_P
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	105	97	100	101	99
Surrogate $^{13}C_2$ *PFOA*	%	103	104	108	104	96
Extracted ISTD $^{18}O_2$ *PFHxS*	%	104	99	108	105	104
Extracted ISTD $^{13}C_4$ *PFOS*	%	93	98	96	95	99
Extracted ISTD $^{13}C_4$ *PFOA*	%	91	91	91	92	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	108	113	111	121	101
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	136	140	138	160	139
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-15	210445-16	210445-17	210445-18	210445-19
Your Reference	UNITS	1704_WD_D	1704_Monitor	1006_WT	1006_H_P	1006_H_D
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	0.03	0.02
8:2 FTS	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	96	98	100	99	101
Surrogate $^{13}C_2$ *PFOA*	%	96	99	105	97	104
Extracted ISTD $^{18}O_2$ *PFHxS*	%	86	100	104	103	96
Extracted ISTD $^{13}C_4$ *PFOS*	%	97	100	98	104	100
Extracted ISTD $^{13}C_4$ *PFOA*	%	87	91	92	97	89
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	96	103	107	113	114
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	129	132	151	140	149
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	0.04	0.02

PFAS in Waters Short						
Our Reference		210445-20	210445-21	210445-22	210445-23	210445-24
Your Reference	UNITS	1006_WD_P	1006_WD_D	1006_Monitor	204_WD_P	204_FHR_P
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	0.04	0.03
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	1.1	0.73
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.04	<0.01
6:2 FTS	µg/L	0.02	0.03	<0.01	0.83	0.27
8:2 FTS	µg/L	0.01	<0.01	<0.01	0.53	0.08
Surrogate $^{13}C_8$ *PFOS*	%	96	104	106	93	82
Surrogate $^{13}C_2$ *PFOA*	%	104	103	100	97	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	96	89	107	110
Extracted ISTD $^{13}C_4$ *PFOS*	%	96	70	96	105	121
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	92	92	97	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	115	118	113	128	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	130	93	135	#	179
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	1.2	0.76
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	1.2	0.73
Total Positive PFAS	µg/L	0.03	0.03	<0.01	2.6	1.1

PFAS in Waters Short						
Our Reference		210445-25	210445-26	210445-30	210445-31	210445-32
Your Reference	UNITS	204_WT	204_DB_D	1701_WT	1701_H_P	1701_H_D
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.06	0.02	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.96	0.75	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.02	0.03	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.26	0.58	<0.01	<0.01	0.01
8:2 FTS	µg/L	0.1	0.31	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	91	95	102	107	102
Surrogate $^{13}C_2$ *PFOA*	%	105	100	100	101	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%	107	105	96	93	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	104	101	93	95	98
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	93	88	91	96
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	141	126	104	118	130
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	#	#	136	146	140
Total Positive PFHxS & PFOS	µg/L	1.0	0.78	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.98	0.78	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	1.4	1.7	<0.01	<0.01	0.01

PFAS in Waters Short						
Our Reference		210445-33	210445-34	210445-35	210445-38	210445-39
Your Reference	UNITS	1701_WD_P	1701_WD_D	1701_Monitor	1305_WT	1305_H_P
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.02	<0.01	0.02	0.04
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	0.07
Surrogate $^{13}C_8$ *PFOS*	%	104	96	101	99	99
Surrogate $^{13}C_2$ *PFOA*	%	100	99	99	105	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	95	100	85	99
Extracted ISTD $^{13}C_4$ *PFOS*	%	97	93	92	91	91
Extracted ISTD $^{13}C_4$ *PFOA*	%	93	92	89	85	92
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	119	112	110	109	112
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	131	124	132	121	145
Total Positive PFHxS & PFOS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	0.03	<0.01	0.02	0.12

PFAS in Waters Short						
Our Reference		210445-40	210445-41	210445-42	210445-43	210445-46
Your Reference	UNITS	1305_H_D	1305_WD_P	1305_WD_D	1305_Monitor	1002_WT
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.05	0.10	0.08	0.02	<0.01
8:2 FTS	µg/L	0.07	0.03	0.05	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	100	92	109	107	106
Surrogate $^{13}C_2$ *PFOA*	%	103	100	101	97	96
Extracted ISTD $^{18}O_2$ *PFHxS*	%	103	100	100	100	95
Extracted ISTD $^{13}C_4$ *PFOS*	%	97	92	89	90	87
Extracted ISTD $^{13}C_4$ *PFOA*	%	89	89	88	90	87
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	109	114	114	111	108
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	139	132	116	130	131
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.11	0.14	0.13	0.02	<0.01

PFAS in Waters Short						
Our Reference		210445-47	210445-48	210445-49	210445-50	210445-51
Your Reference	UNITS	1002_H_P	1002_H_D	1002_WD_P	1002_WD_D	1002_Monitor
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	03/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.01	0.12	0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	0.08	0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	105	98	94	97	98
Surrogate $^{13}C_2$ *PFOA*	%	103	99	101	103	102
Extracted ISTD $^{18}O_2$ *PFHxS*	%	108	99	104	96	109
Extracted ISTD $^{13}C_4$ *PFOS*	%	92	97	98	95	108
Extracted ISTD $^{13}C_4$ *PFOA*	%	87	87	88	85	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	108	110	106	100	105
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	139	128	137	130	100
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	0.01	0.19	0.03	<0.01

PFAS in Waters Short						
Our Reference		210445-54	210445-55	210445-56	210445-57	210445-58
Your Reference	UNITS	1702_WT	1702_H_P	1702_H_D	1702_WD_P	1702_WD_D
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	102	87	97	96	99
Surrogate $^{13}C_2$ *PFOA*	%	87	93	91	91	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%	98	97	90	106	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	110	128	112	109	104
Extracted ISTD $^{13}C_4$ *PFOA*	%	107	103	105	104	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	99	107	109	106	104
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	93	106	103	94	86
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-59	210445-60	210445-61	210445-62	210445-63
Your Reference	UNITS	1702_Monitor	1603_WT	1603_H_P	1603_H_D	1603_WD_P
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	100	110	101	102	104
Surrogate $^{13}C_2$ *PFOA*	%	85	93	91	90	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	91	97	102	88
Extracted ISTD $^{13}C_4$ *PFOS*	%	110	106	117	115	120
Extracted ISTD $^{13}C_4$ *PFOA*	%	104	106	104	104	106
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	105	103	103	106	110
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	101	107	98	106	132
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-64	210445-65	210445-70	210445-71	210445-72
Your Reference	UNITS	1603_WD_D	1603_Monitor	1001_WT	1001_H_P	1001_H_D
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	0.03	0.07
8:2 FTS	µg/L	<0.01	<0.01	<0.01	0.03	0.01
Surrogate $^{13}C_8$ *PFOS*	%	102	115	105	107	98
Surrogate $^{13}C_2$ *PFOA*	%	89	87	86	89	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	87	94	84	92	90
Extracted ISTD $^{13}C_4$ *PFOS*	%	116	109	106	106	114
Extracted ISTD $^{13}C_4$ *PFOA*	%	101	108	105	98	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	91	104	90	95	96
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	97	100	92	92	90
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	0.07	0.08

PFAS in Waters Short						
Our Reference		210445-73	210445-74	210445-75	210445-80	210445-81
Your Reference	UNITS	1001_WD_P	1001_WD_D	1001_Monitor	081_WT	081_H_P
Date Sampled		21/01/2019	21/01/2019	21/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.03	0.04	<0.01	0.01	0.11
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	0.04
Surrogate $^{13}C_8$ *PFOS*	%	101	101	97	99	107
Surrogate $^{13}C_2$ *PFOA*	%	89	91	90	92	87
Extracted ISTD $^{18}O_2$ *PFHxS*	%	87	80	90	93	99
Extracted ISTD $^{13}C_4$ *PFOS*	%	110	119	118	112	107
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	99	102	99	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	99	91	99	82	96
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	95	102	104	107	95
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.03	0.04	<0.01	0.01	0.15

PFAS in Waters Short						
Our Reference		210445-82	210445-83	210445-84	210445-85	210445-88
Your Reference	UNITS	081_H_D	081_WD_P	081_WD_D	081_Monitor	1303_WT
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.02	0.02	0.03	0.01	<0.01
8:2 FTS	µg/L	0.02	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	109	103	109	99	102
Surrogate $^{13}C_2$ *PFOA*	%	89	89	83	85	90
Extracted ISTD $^{18}O_2$ *PFHxS*	%	117	110	117	113	114
Extracted ISTD $^{13}C_4$ *PFOS*	%	107	108	110	116	108
Extracted ISTD $^{13}C_4$ *PFOA*	%	104	101	110	108	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	96	96	99	96	92
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	99	92	98	94	99
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.04	0.02	0.03	0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-89	210445-90	210445-91	210445-92	210445-93
Your Reference	UNITS	1303_H_P	1303_H_D	1303_WD_P	1303_WD_D	1303_Monitor
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.04	0.11	0.03	<0.01
8:2 FTS	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	103	103	99	109	101
Surrogate $^{13}C_2$ *PFOA*	%	88	89	91	88	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%	106	116	110	110	119
Extracted ISTD $^{13}C_4$ *PFOS*	%	110	109	112	107	111
Extracted ISTD $^{13}C_4$ *PFOA*	%	105	104	104	106	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	95	106	104	88	98
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	96	95	98	102	88
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	0.04	0.12	0.03	<0.01

PFAS in Waters Short						
Our Reference		210445-97	210445-98	210445-99	210445-100	210445-101
Your Reference	UNITS	1301_WT	1301_H_P	1301_H_D	1301_WD_P	1301_WD_D
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	99	107	93	99	111
Surrogate $^{13}C_2$ *PFOA*	%	89	89	85	87	84
Extracted ISTD $^{18}O_2$ *PFHxS*	%	117	107	120	123	104
Extracted ISTD $^{13}C_4$ *PFOS*	%	115	110	119	114	100
Extracted ISTD $^{13}C_4$ *PFOA*	%	102	103	106	102	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	97	98	93	93	90
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	102	103	90	99	95
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-102	210445-105	210445-106	210445-107	210445-108
Your Reference	UNITS	1301_Monitor	1008_WT	1008_H_P	1008_H_D	1008_WD_P
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	0.03	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	0.05	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	0.03	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	100	102	103	95	105
Surrogate $^{13}C_2$ *PFOA*	%	91	87	88	89	85
Extracted ISTD $^{18}O_2$ *PFHxS*	%	111	103	109	111	120
Extracted ISTD $^{13}C_4$ *PFOS*	%	112	114	113	115	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	106	102	102	104	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	99	97	99	105	101
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	98	100	105	96	91
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	0.03	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	0.03	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	0.1	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-109	210445-110	210445-111	210445-112	210445-113
Your Reference	UNITS	1008_WD_D	1008_Monitor	1707_WT	1707_H_P	1707_H_D
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	101	88	102	96	108
Surrogate $^{13}C_2$ *PFOA*	%	84	86	91	90	88
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100	119	119	110	107
Extracted ISTD $^{13}C_4$ *PFOS*	%	105	115	103	107	112
Extracted ISTD $^{13}C_4$ *PFOA*	%	105	99	99	95	106
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	90	89	94	85	117
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	93	97	93	91	100
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-114	210445-115	210445-116	210445-125	210445-126
Your Reference	UNITS	1707_WD_P	1707_WD_D	1707_Monitor	193_WT	193_H_P
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	0.03
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	0.22
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	0.02
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	108	102	103	97	101
Surrogate $^{13}C_2$ *PFOA*	%	90	89	86	88	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	110	109	110	111	104
Extracted ISTD $^{13}C_4$ *PFOS*	%	104	106	104	110	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	98	99	103	106	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	93	98	99	91	93
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	94	83	99	100	95
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	0.25
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	0.22
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01	0.27

PFAS in Waters Short						
Our Reference		210445-127	210445-128	210445-129	210445-130	210445-131
Your Reference	UNITS	193_H_D	193_WD_P	193_WD_D	193_Monitor	1103_WT
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.03	0.05	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	0.02	0.20	0.28	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.01	0.02	0.04	0.03	<0.01
8:2 FTS	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	93	107	97	107	106
Surrogate $^{13}C_2$ *PFOA*	%	86	90	89	89	88
Extracted ISTD $^{18}O_2$ *PFHxS*	%	116	103	110	111	104
Extracted ISTD $^{13}C_4$ *PFOS*	%	109	105	107	103	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	102	99	103	98	99
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	98	92	98	96	88
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	98	102	96	94	92
Total Positive PFHxS & PFOS	µg/L	0.01	0.02	0.23	0.33	<0.01
Total Positive PFOA & PFOS	µg/L	0.01	0.02	0.20	0.28	<0.01
Total Positive PFAS	µg/L	0.02	0.03	0.28	0.35	<0.01

PFAS in Waters Short						
Our Reference		210445-132	210445-133	210445-134	210445-135	210445-136
Your Reference	UNITS	1103_H_P	1103_H_D	1103_WD_P	1103_WD_D	1103_Monitor
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	04/02/2019
Date analysed	-	03/02/2019	03/02/2019	03/02/2019	03/02/2019	04/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.03	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.01	0.02	0.27	0.04	<0.01
8:2 FTS	µg/L	0.02	<0.01	0.05	0.02	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	110	105	98	109	101
Surrogate $^{13}C_2$ *PFOA*	%	85	90	84	89	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	107	99	106	111	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	99	104	105	110	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	98	106	105	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	92	93	99	103	82
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	98	91	95	97	89
Total Positive PFHxS & PFOS	µg/L	0.03	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.03	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.06	0.02	0.32	0.06	<0.01

PFAS in Waters Short						
Our Reference		210445-139	210445-140	210445-141	210445-142	210445-143
Your Reference	UNITS	080_WT	080_H_P	080_H_D	080_WD_P	080_WD_D
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Date analysed	-	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.04	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.01	0.02	0.05	0.02	0.02
8:2 FTS	µg/L	<0.01	<0.01	0.03	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	108	102	106	96	104
Surrogate $^{13}C_2$ *PFOA*	%	97	103	96	98	96
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	98	91	89	97
Extracted ISTD $^{13}C_4$ *PFOS*	%	96	97	92	98	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	102	103	98	106
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	82	80	83	80	80
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	87	87	88	80	91
Total Positive PFHxS & PFOS	µg/L	<0.01	0.04	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.04	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.01	0.06	0.07	0.02	0.02

PFAS in Waters Short						
Our Reference		210445-144	210445-146	210445-147	210445-148	210445-149
Your Reference	UNITS	080_Monitor	187_WT	187_H_P	187_H_D	187_WD_P
Date Sampled		22/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Date analysed	-	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	0.08	0.04	0.05
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.03	0.02	0.04
6:2 FTS	µg/L	0.03	0.06	0.50	0.37	0.76
8:2 FTS	µg/L	<0.01	0.03	0.22	0.11	0.22
Surrogate $^{13}C_8$ *PFOS*	%	102	99	88	107	105
Surrogate $^{13}C_2$ *PFOA*	%	99	94	99	101	107
Extracted ISTD $^{18}O_2$ *PFHxS*	%	94	102	117	118	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	102	103	113	100	99
Extracted ISTD $^{13}C_4$ *PFOA*	%	104	106	107	112	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	78	89	#	#	84
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	84	86	94	91	86
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	0.08	0.04	0.05
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	0.11	0.05	0.09
Total Positive PFAS	µg/L	0.03	0.09	0.83	0.53	1.1

PFAS in Waters Short						
Our Reference		210445-150	210445-151	210445-152	210445-153	210445-154
Your Reference	UNITS	187_WD_D	187_Monitor	1012_WT	1012_H_P	1012_H_D
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Date analysed	-	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.05	<0.01	<0.01	0.04	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.03	<0.01	0.03	0.04	0.05
6:2 FTS	µg/L	0.62	0.09	1.2	2.1	2.0
8:2 FTS	µg/L	0.16	0.05	0.1	0.44	0.41
Surrogate $^{13}C_8$ *PFOS*	%	100	100	99	101	98
Surrogate $^{13}C_2$ *PFOA*	%	100	106	108	103	106
Extracted ISTD $^{18}O_2$ *PFHxS*	%	98	97	98	98	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	91	101	108	88	100
Extracted ISTD $^{13}C_4$ *PFOA*	%	100	103	90	102	104
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	81	83	127	111	146
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	77	93	82	89	104
Total Positive PFHxS & PFOS	µg/L	0.05	<0.01	<0.01	0.04	<0.01
Total Positive PFOA & PFOS	µg/L	0.08	<0.01	0.03	0.08	0.05
Total Positive PFAS	µg/L	0.86	0.14	1.4	2.6	2.4

PFAS in Waters Short						
Our Reference		210445-155	210445-156	210445-157	210445-158	210445-159
Your Reference	UNITS	1012_WD_P	1012_WD_D	1012_Monitor	087_WT	087_H_P
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	04/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	04/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.02	0.02	0.01	<0.01	<0.01
6:2 FTS	µg/L	0.68	0.85	0.46	0.34	0.04
8:2 FTS	µg/L	0.23	0.28	0.08	0.09	0.04
Surrogate $^{13}C_8$ *PFOS*	%	105	102	99	101	102
Surrogate $^{13}C_2$ *PFOA*	%	97	93	94	96	95
Extracted ISTD $^{18}O_2$ *PFHxS*	%	94	121	100	101	97
Extracted ISTD $^{13}C_4$ *PFOS*	%	91	99	91	105	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	97	103	97	102	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	87	94	95	116	100
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	81	96	96	136	102
Total Positive PFHxS & PFOS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.02	0.02	0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.93	1.2	0.55	0.43	0.08

PFAS in Waters Short						
Our Reference		210445-160	210445-161	210445-162	210445-163	210445-164
Your Reference	UNITS	087_H_D	087_WD_P	087_WD_D	087_Monitor	QA01_WT_JC
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.67	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	6.1	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.09	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.26	0.23	0.28	0.34	0.08
8:2 FTS	µg/L	0.1	0.05	0.09	0.07	0.04
Surrogate $^{13}C_8$ *PFOS*	%	105	105	99	101	103
Surrogate $^{13}C_2$ *PFOA*	%	98	100	90	95	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	139	101	106	102	107
Extracted ISTD $^{13}C_4$ *PFOS*	%	112	92	97	109	99
Extracted ISTD $^{13}C_4$ *PFOA*	%	107	100	102	109	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	112	98	102	116	105
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	119	105	97	128	113
Total Positive PFHxS & PFOS	µg/L	6.8	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	6.2	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	7.2	0.28	0.37	0.42	0.12

PFAS in Waters Short						
Our Reference		210445-165	210445-166	210445-167	210445-168	210445-169
Your Reference	UNITS	QA01_H_P_JC	QA01_H_D_JC	QA01_WD_P_JC	QA01_WD_D_JC	QA01_Monitor_JC
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.13	0.03	0.04	0.05	<0.01
Perfluorooctanoic acid PFOA	µg/L	0.03	0.02	0.03	0.03	<0.01
6:2 FTS	µg/L	0.50	0.20	0.74	0.55	0.12
8:2 FTS	µg/L	0.34	0.24	0.22	0.19	0.06
Surrogate $^{13}C_8$ *PFOS*	%	105	104	99	103	98
Surrogate $^{13}C_2$ *PFOA*	%	92	91	87	95	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%	119	95	98	106	99
Extracted ISTD $^{13}C_4$ *PFOS*	%	106	97	100	95	101
Extracted ISTD $^{13}C_4$ *PFOA*	%	111	105	104	105	106
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	#	144	95	104	115
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	106	115	106	104	99
Total Positive PFHxS & PFOS	µg/L	0.13	0.03	0.04	0.05	<0.01
Total Positive PFOA & PFOS	µg/L	0.16	0.05	0.08	0.08	<0.01
Total Positive PFAS	µg/L	1.0	0.49	1.0	0.82	0.18

PFAS in Waters Short						
Our Reference		210445-170	210445-171	210445-172	210445-173	210445-174
Your Reference	UNITS	QA02_WT_JC	QA02_H_P_JC	QA02_H_D_JC	QA02_WD_P_JC	QA02_WD_D_JC
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.1	0.03	0.04	0.05
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.02	0.02	0.04	0.03
6:2 FTS	µg/L	0.06	0.44	0.24	0.66	0.45
8:2 FTS	µg/L	0.03	0.24	0.17	0.21	0.15
Surrogate $^{13}C_8$ *PFOS*	%	112	97	103	94	101
Surrogate $^{13}C_2$ *PFOA*	%	93	99	95	97	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	101	120	108	105	104
Extracted ISTD $^{13}C_4$ *PFOS*	%	93	113	102	106	100
Extracted ISTD $^{13}C_4$ *PFOA*	%	107	107	107	106	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	109	#	143	106	105
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	102	110	100	105	103
Total Positive PFHxS & PFOS	µg/L	<0.01	0.1	0.03	0.04	0.05
Total Positive PFOA & PFOS	µg/L	<0.01	0.12	0.05	0.08	0.07
Total Positive PFAS	µg/L	0.1	0.80	0.47	0.95	0.68

PFAS in Waters Short						
Our Reference		210445-175	210445-176	210445-177	210445-178	210445-179
Your Reference	UNITS	QA02_Monitor_JC	RB01	RB02	RB03	RB04
Date Sampled		23/01/2019	21/01/2019	22/01/2019	23/01/2019	25/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.11	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	0.03	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	98	98	99	103	103
Surrogate $^{13}C_2$ *PFOA*	%	99	99	99	98	106
Extracted ISTD $^{18}O_2$ *PFHxS*	%	108	107	107	113	107
Extracted ISTD $^{13}C_4$ *PFOS*	%	105	115	107	109	104
Extracted ISTD $^{13}C_4$ *PFOA*	%	104	106	103	108	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	103	111	103	115	102
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	125	126	124	123	111
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.15	<0.01	<0.01	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-184	210445-185	210445-186	210445-187	210445-188
Your Reference	UNITS	1007_M	1007_WT	1007_WD_P	1007_WD_D	1007_H_P
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.04	0.04	0.07	0.10	0.02
8:2 FTS	µg/L	0.01	<0.01	0.02	0.02	0.01
Surrogate $^{13}C_8$ *PFOS*	%	100	103	97	97	93
Surrogate $^{13}C_2$ *PFOA*	%	93	91	93	100	102
Extracted ISTD $^{18}O_2$ *PFHxS*	%	102	96	94	98	97
Extracted ISTD $^{13}C_4$ *PFOS*	%	102	104	107	106	109
Extracted ISTD $^{13}C_4$ *PFOA*	%	107	109	101	98	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	125	122	107	117	103
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	110	109	107	118	113
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.05	0.04	0.09	0.12	0.03

PFAS in Waters Short						
Our Reference		210445-189	210445-192	210445-193	210445-194	210445-195
Your Reference	UNITS	1007_H_D	1009_M	1009_WT	1009_WD_P	1009_WD_D
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.01	0.01	0.01	0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.13	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	0.03	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	101	97	104	105	105
Surrogate $^{13}C_2$ *PFOA*	%	88	95	95	91	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100	96	105	98	99
Extracted ISTD $^{13}C_4$ *PFOS*	%	110	104	104	104	104
Extracted ISTD $^{13}C_4$ *PFOA*	%	93	101	106	104	109
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	#	107	107	101	113
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	115	119	100	121	109
Total Positive PFHxS & PFOS	µg/L	<0.01	0.01	0.01	0.01	0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.01	0.01	0.01	0.01
Total Positive PFAS	µg/L	0.17	0.01	0.01	0.01	0.01

PFAS in Waters Short						
Our Reference		210445-196	210445-197	210445-203	210445-204	210445-205
Your Reference	UNITS	1009_H_P	1009_H_D	1706_M	1706_WT	1706_WD_P
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	90	94	99	97	89
Surrogate $^{13}C_2$ *PFOA*	%	92	98	91	97	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	97	107	108	107	111
Extracted ISTD $^{13}C_4$ *PFOS*	%	100	110	111	106	112
Extracted ISTD $^{13}C_4$ *PFOA*	%	102	112	107	108	109
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	112	157	106	118	127
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	105	131	124	113	127
Total Positive PFHxS & PFOS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	0.03	<0.01	<0.01	<0.01

PFAS in Waters Short						
Our Reference		210445-206	210445-207	210445-208	210445-209	210445-210
Your Reference	UNITS	1706_WD_D	1706_H_P	1706_H_D	1005_M	1005_WT
Date Sampled		23/01/2019	23/01/2019	23/01/2019	23/01/2019	23/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	06/02/2019
Date analysed	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	0.01	0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	0.02	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	96	99	96	94	95
Surrogate $^{13}C_2$ *PFOA*	%	92	94	93	88	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100	108	104	104	98
Extracted ISTD $^{13}C_4$ *PFOS*	%	109	116	108	108	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	108	110	107	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	112	#	138	113	118
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	116	#	139	122	107
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	0.03	0.01

PFAS in Waters Short						
Our Reference		210445-211	210445-212	210445-215	210445-216	210445-217
Your Reference	UNITS	1005_WD_P	1005_WD_D	189_M	189_WT	189_WD_P
Date Sampled		23/01/2019	23/01/2019	25/01/2019	25/01/2019	25/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	<0.01	0.02	0.04	0.12
Perfluorooctanesulfonic acid PFOS	µg/L	0.03	<0.01	0.49	0.33	1.1
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.05	0.06
6:2 FTS	µg/L	1.9	0.04	0.01	0.01	0.07
8:2 FTS	µg/L	<0.01	0.02	<0.01	<0.01	0.02
Surrogate $^{13}C_8$ *PFOS*	%	101	104	106	102	102
Surrogate $^{13}C_2$ *PFOA*	%	86	89	89	86	87
Extracted ISTD $^{18}O_2$ *PFHxS*	%	106	94	100	99	102
Extracted ISTD $^{13}C_4$ *PFOS*	%	107	110	104	101	104
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	97	96	97	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	116	118	115	125	116
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	93	102	92	104	107
Total Positive PFHxS & PFOS	µg/L	0.04	<0.01	0.50	0.37	1.2
Total Positive PFOA & PFOS	µg/L	0.03	<0.01	0.49	0.38	1.1
Total Positive PFAS	µg/L	2.0	0.06	0.52	0.43	1.3

PFAS in Waters Short						
Our Reference		210445-218	210445-219	210445-220	210445-221	210445-222
Your Reference	UNITS	189_WD_D	189_H_P	189_H_D	194_M	194_WT
Date Sampled		25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.09	1.5	0.21	0.02	0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.75	17	3.2	0.1	0.14
Perfluorooctanoic acid PFOA	µg/L	0.04	0.04	0.08	<0.01	0.04
6:2 FTS	µg/L	0.05	0.05	0.65	0.05	0.01
8:2 FTS	µg/L	0.02	0.02	0.32	0.04	0.02
Surrogate $^{13}C_8$ *PFOS*	%	105	116	113	89	106
Surrogate $^{13}C_2$ *PFOA*	%	84	84	86	82	85
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100	135	98	98	96
Extracted ISTD $^{13}C_4$ *PFOS*	%	107	91	102	116	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	99	107	97	100	99
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	115	#	126	114	133
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	82	130	118	98	99
Total Positive PFHxS & PFOS	µg/L	0.84	18	3.4	0.11	0.15
Total Positive PFOA & PFOS	µg/L	0.79	17	3.3	0.1	0.18
Total Positive PFAS	µg/L	0.95	19	4.5	0.20	0.22

PFAS in Waters Short						
Our Reference		210445-223	210445-224	210445-225	210445-226	210445-227
Your Reference	UNITS	194_WD_P	194_WD_D	194_H_P	194_H_D	163_M
Date Sampled		25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.02	0.01	0.03	0.05	0.25
Perfluorooctanesulfonic acid PFOS	µg/L	0.21	0.15	0.20	0.11	0.92
Perfluorooctanoic acid PFOA	µg/L	0.02	0.01	0.01	0.05	0.06
6:2 FTS	µg/L	0.06	0.05	0.09	0.02	0.87
8:2 FTS	µg/L	0.03	0.04	0.02	<0.01	0.31
Surrogate $^{13}C_8$ *PFOS*	%	110	102	108	104	104
Surrogate $^{13}C_2$ *PFOA*	%	82	86	88	82	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	98	100	106	90	94
Extracted ISTD $^{13}C_4$ *PFOS*	%	99	101	106	106	104
Extracted ISTD $^{13}C_4$ *PFOA*	%	98	100	106	100	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	105	122	#	133	109
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	99	91	98	109	106
Total Positive PFHxS & PFOS	µg/L	0.22	0.17	0.22	0.15	1.2
Total Positive PFOA & PFOS	µg/L	0.23	0.16	0.21	0.16	0.98
Total Positive PFAS	µg/L	0.33	0.27	0.34	0.22	2.4

PFAS in Waters Short						
Our Reference		210445-228	210445-229	210445-230	210445-231	210445-232
Your Reference	UNITS	163_WT	163_WD_P	163_WD_D	163_H_P	163_H_D
Date Sampled		25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.34	0.30	0.01	0.07
Perfluorooctanesulfonic acid PFOS	µg/L	0.04	1.6	1.8	0.27	0.43
Perfluorooctanoic acid PFOA	µg/L	0.04	0.20	0.35	0.03	0.1
6:2 FTS	µg/L	0.39	2.2	3.4	0.56	0.75
8:2 FTS	µg/L	0.26	0.91	1.0	0.12	0.48
Surrogate $^{13}C_8$ *PFOS*	%	95	105	97	105	109
Surrogate $^{13}C_2$ *PFOA*	%	85	89	89	85	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100	95	99	106	87
Extracted ISTD $^{13}C_4$ *PFOS*	%	104	100	103	107	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	98	95	91	101	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	111	107	95	#	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	97	88	100	107	98
Total Positive PFHxS & PFOS	µg/L	0.04	1.9	2.1	0.28	0.50
Total Positive PFOA & PFOS	µg/L	0.08	1.8	2.1	0.30	0.53
Total Positive PFAS	µg/L	0.73	5.2	6.9	0.99	1.8

PFAS in Waters Short						
Our Reference		210445-233	210445-234	210445-235	210445-236	210445-237
Your Reference	UNITS	164_M	164_WT	164_WD_P	164_WD_D	164_H_P
Date Sampled		25/01/2019	25/01/2019	25/01/2019	25/01/2019	25/01/2019
Type of sample		water	water	water	water	water
Date prepared	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.48	0.22	1.1	0.94	0.11
Perfluorooctanesulfonic acid PFOS	µg/L	3.6	0.90	21	9.0	1.1
Perfluorooctanoic acid PFOA	µg/L	0.09	0.04	0.25	0.17	0.07
6:2 FTS	µg/L	0.33	0.01	0.48	0.74	1.3
8:2 FTS	µg/L	0.23	<0.01	0.26	0.27	0.29
Surrogate $^{13}C_8$ *PFOS*	%	109	98	106	97	109
Surrogate $^{13}C_2$ *PFOA*	%	83	83	79	84	85
Extracted ISTD $^{18}O_2$ *PFHxS*	%	89	95	95	100	102
Extracted ISTD $^{13}C_4$ *PFOS*	%	101	111	92	90	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	99	100	98	97	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	111	122	114	108	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	92	98	114	105	106
Total Positive PFHxS & PFOS	µg/L	4.1	1.1	22	9.9	1.2
Total Positive PFOA & PFOS	µg/L	3.7	0.93	21	9.2	1.1
Total Positive PFAS	µg/L	4.8	1.2	23	11	2.9

PFAS in Waters Short		
Our Reference		210445-238
Your Reference	UNITS	164_H_D
Date Sampled		25/01/2019
Type of sample		water
Date prepared	-	06/02/2019
Date analysed	-	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.06
Perfluorooctanesulfonic acid PFOS	µg/L	0.69
Perfluorooctanoic acid PFOA	µg/L	0.04
6:2 FTS	µg/L	1.1
8:2 FTS	µg/L	0.23
Surrogate $^{13}C_8$ *PFOS*	%	108
Surrogate $^{13}C_2$ *PFOA*	%	85
Extracted ISTD $^{18}O_2$ *PFHxS*	%	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	101
Extracted ISTD $^{13}C_4$ *PFOA*	%	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	131
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	115
Total Positive PFHxS & PFOS	µg/L	0.75
Total Positive PFOA & PFOS	µg/L	0.73
Total Positive PFAS	µg/L	2.1

PFAs in Soils Short						
Our Reference		210445-1	210445-2	210445-9	210445-10	210445-27
Your Reference	UNITS	Gawler_1	Gawler_2	Salisbury_1	Salisbury_2	Golden Grove_1
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	0.6	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	3.4	12	0.9	0.6	0.6
Perfluorooctanoic acid PFOA	µg/kg	<0.1	0.3	0.2	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate $^{13}C_8$ *PFOS*	%	104	103	101	100	100
Surrogate $^{13}C_2$ *PFOA*	%	97	97	99	97	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%	81	92	92	99	103
Extracted ISTD $^{13}C_4$ *PFOS*	%	85	82	93	96	103
Extracted ISTD $^{13}C_4$ *PFOA*	%	80	88	92	104	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	132	89	145	127	170
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	148	76	91	130	126
Total Positive PFHxS & PFOS	µg/kg	3.4	13	0.9	0.6	0.6
Total Positive PFOS & PFOA	µg/kg	3.4	12	1.1	0.6	0.6
Total Positive PFAS	µg/kg	3.4	13	1.1	0.6	0.6

PFAs in Soils Short						
Our Reference		210445-28	210445-36	210445-37	210445-44	210445-45
Your Reference	UNITS	Golden Grove_2	Paradise_1	Paradise_2	OHalloran_1	OHalloran_2
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	28	0.5
Perfluorooctanesulfonic acid PFOS	µg/kg	1.2	0.5	0.4	150	8.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	0.8	6.8	1.4	0.3
6:2 FTS	µg/kg	<0.1	<0.2	4.5	<0.1	<0.1
8:2 FTS	µg/kg	<0.1	<0.2	9.1	<0.1	0.2
Surrogate $^{13}C_8$ *PFOS*	%	106	107	99	108	108
Surrogate $^{13}C_2$ *PFOA*	%	95	101	101	99	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%	104	97	106	99	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	98	68	97	116	73
Extracted ISTD $^{13}C_4$ *PFOA*	%	111	100	119	106	111
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	#	44	107	118	69
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	#	#	76	98	48
Total Positive PFHxS & PFOS	µg/kg	1.2	0.5	0.4	180	8.6
Total Positive PFOS & PFOA	µg/kg	1.2	1.2	7.2	150	8.4
Total Positive PFAS	µg/kg	1.2	1.2	21	180	9.1

PFAs in Soils Short						
Our Reference		210445-52	210445-53	210445-68	210445-69	210445-76
Your Reference	UNITS	Christie_1	Christie_2	Seaford_1	Seaford_2	Prospect_1
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	22/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	6.0	5.7	<0.1	<0.1	1.4
Perfluorooctanesulfonic acid PFOS	µg/kg	360	110	0.8	0.2	8.0
Perfluorooctanoic acid PFOA	µg/kg	3.0	1.9	0.3	0.1	1
6:2 FTS	µg/kg	0.5	0.8	<0.1	<0.1	0.7
8:2 FTS	µg/kg	11	4.3	<0.1	<0.1	1.4
Surrogate $^{13}C_8$ *PFOS*	%	110	112	108	105	106
Surrogate $^{13}C_2$ *PFOA*	%	103	102	98	97	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%	92	107	99	102	106
Extracted ISTD $^{13}C_4$ *PFOS*	%	71	110	94	99	91
Extracted ISTD $^{13}C_4$ *PFOA*	%	84	112	111	109	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	146	98	143	#	177
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	77	81	139	#	#
Total Positive PFHxS & PFOS	µg/kg	370	120	0.8	0.2	9.4
Total Positive PFOS & PFOA	µg/kg	360	110	1.1	0.3	9.0
Total Positive PFAS	µg/kg	380	120	1.1	0.3	12

PFAs in Soils Short						
Our Reference		210445-77	210445-86	210445-87	210445-94	210445-95
Your Reference	UNITS	Prospect_2	Angle_1	Angle_2	PortAdelaide_1	PortAdelaide_2
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	13	2.1	11	15
Perfluorooctanesulfonic acid PFOS	µg/kg	0.7	57	55	87	490
Perfluorooctanoic acid PFOA	µg/kg	0.6	2.4	0.7	0.8	12
6:2 FTS	µg/kg	0.7	0.8	6.9	<0.1	59
8:2 FTS	µg/kg	0.5	0.5	5.5	<0.1	200
Surrogate $^{13}C_8$ *PFOS*	%	109	109	103	104	107
Surrogate $^{13}C_2$ *PFOA*	%	100	103	101	98	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%	108	100	115	106	103
Extracted ISTD $^{13}C_4$ *PFOS*	%	100	128	121	128	115
Extracted ISTD $^{13}C_4$ *PFOA*	%	108	80	129	116	114
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	137	69	152	153	115
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	155	53	153	165	130
Total Positive PFHxS & PFOS	µg/kg	0.7	70	57	98	510
Total Positive PFOS & PFOA	µg/kg	1.3	59	56	88	500
Total Positive PFAS	µg/kg	2.6	74	70	99	780

PFAs in Soils Short						
Our Reference		210445-103	210445-104	210445-122	210445-123	210445-137
Your Reference	UNITS	Woodville_1	Woodville_2	Elizabeth_1	Elizabeth_2	Beulah_1
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	41	0.3	1.3	0.2	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	210	10	34	30	1
Perfluorooctanoic acid PFOA	µg/kg	4.0	0.2	0.6	0.8	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	1	0.9	<0.1
8:2 FTS	µg/kg	<0.1	<0.1	5.6	1.3	<0.1
Surrogate $^{13}C_8$ *PFOS*	%	113	106	106	100	108
Surrogate $^{13}C_2$ *PFOA*	%	100	99	103	102	103
Extracted ISTD $^{18}O_2$ *PFHxS*	%	88	90	97	95	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	124	88	77	84	84
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	91	91	94	88
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	165	151	84	139	128
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	170	161	76	135	124
Total Positive PFHxS & PFOS	µg/kg	250	10	35	30	1
Total Positive PFOS & PFOA	µg/kg	210	10	35	31	1
Total Positive PFAS	µg/kg	250	11	43	33	1

PFAs in Soils Short						
Our Reference		210445-138	210445-180	210445-181	210445-190	210445-191
Your Reference	UNITS	Beulah_2	BROOKLYN_1	BROOKLYN_2	CAMDEN_1	CAMDEN_2
Date Sampled		22/01/2019	21/02/2019	22/02/2019	23/01/2019	23/01/2019
Type of sample		Soil	soil	soil	soil	soil
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.3	1.9	12	8.8	50
Perfluorooctanesulfonic acid PFOS	µg/kg	7.2	42	93	130	1,000
Perfluorooctanoic acid PFOA	µg/kg	0.2	0.4	1.0	0.7	5.7
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate $^{13}C_8$ *PFOS*	%	103	106	106	105	125
Surrogate $^{13}C_2$ *PFOA*	%	98	98	101	101	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	96	85	97	87
Extracted ISTD $^{13}C_4$ *PFOS*	%	89	84	124	124	120
Extracted ISTD $^{13}C_4$ *PFOA*	%	92	96	76	99	83
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	130	185	99	146	135
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	117	185	62	163	115
Total Positive PFHxS & PFOS	µg/kg	7.5	44	100	140	1,100
Total Positive PFOS & PFOA	µg/kg	7.4	42	94	130	1,000
Total Positive PFAS	µg/kg	7.7	44	110	140	1,100

PFAs in Soils Short					
Our Reference		210445-198	210445-199	210445-213	210445-214
Your Reference	UNITS	STMARYS_1	STMARYS_2	TRAIN_1	TRAIN_2
Date Sampled		23/01/2019	23/01/2019	25/01/2019	25/01/2019
Type of sample		soil	soil	soil	soil
Date prepared	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	20	1.2	<0.1	16
Perfluorooctanesulfonic acid PFOS	µg/kg	200	43	6.7	210
Perfluorooctanoic acid PFOA	µg/kg	3.4	1.2	0.4	7.7
6:2 FTS	µg/kg	2.7	0.6	0.2	20
8:2 FTS	µg/kg	2.4	0.9	0.4	260
Surrogate $^{13}C_8$ *PFOS*	%	117	110	109	112
Surrogate $^{13}C_2$ *PFOA*	%	108	102	104	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	99	108	99
Extracted ISTD $^{13}C_4$ *PFOS*	%	117	80	99	59
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	107	111	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	105	109	142	142
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	120	84	161	140
Total Positive PFHxS & PFOS	µg/kg	220	44	6.7	230
Total Positive PFOS & PFOA	µg/kg	200	44	7.1	220
Total Positive PFAS	µg/kg	230	47	7.8	510

PFAS in Biota Short						
Our Reference		210445-29	210445-66	210445-67	210445-78	210445-79
Your Reference	UNITS	Golden Grove_Lime	Christie_Lime	Christie_Apricot	Prospect_Lime	Prospect_Lemon
Date Sampled		21/01/2019	21/01/2019	21/01/2019	22/01/2019	22/01/2019
Type of sample		Biota	Biota	Biota	Biota	Biota
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<1	1	<1	<1	<1
Perfluorooctanesulfonic acid PFOS	µg/kg	<1	<1	<1	<1	<1
Perfluorooctanoic acid PFOA	µg/kg	<1	<1	<1	<1	<1
6:2 FTS	µg/kg	<1	<1	<1	<1	<1
8:2 FTS	µg/kg	<1	<1	<1	<1	<1
Surrogate $^{13}C_8$ *PFOS*	%	106	93	101	97	107
Surrogate $^{13}C_2$ *PFOA*	%	100	90	96	97	95
Extracted ISTD $^{18}O_2$ *PFHxS*	%	93	89	83	87	87
Extracted ISTD $^{13}C_4$ *PFOS*	%	101	102	88	93	87
Extracted ISTD $^{13}C_4$ *PFOA*	%	88	109	86	101	87
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	96	#	86	#	92
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	79	103	96	89	81
Total Positive PFHxS & PFOS	µg/kg	<1	1	<1	<1	<1
Total Positive PFOS & PFOA	µg/kg	<1	<1	<1	<1	<1

PFAS in Biota Short						
Our Reference		210445-96	210445-117	210445-118	210445-119	210445-120
Your Reference	UNITS	PortAdelaide_EGGS-Yolks	Woodville_Lime	Woodville_Peach	Woodville_Grapes	Woodville_Tomatoes
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Biota	Biota	Biota	Biota	Biota
Date prepared	-	31/01/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	31/01/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	92	<1	<1	<1	<1
Perfluorooctanesulfonic acid PFOS	µg/kg	420	<1	<1	<1	<1
Perfluorooctanoic acid PFOA	µg/kg	7.6	<1	<1	<1	<1
6:2 FTS	µg/kg	12	<1	<1	<1	<1
8:2 FTS	µg/kg	120	<1	<1	<1	<1
Surrogate $^{13}C_8$ *PFOS*	%	115	100	97	111	94
Surrogate $^{13}C_2$ *PFOA*	%	85	99	101	97	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%	83	85	81	77	84
Extracted ISTD $^{13}C_4$ *PFOS*	%	103	96	94	78	88
Extracted ISTD $^{13}C_4$ *PFOA*	%	79	100	84	86	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	66	#	86	84	85
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	59	117	108	81	96
Total Positive PFHxS & PFOS	µg/kg	510	<1	<1	<1	<1
Total Positive PFOS & PFOA	µg/kg	420	<1	<1	<1	<1

PFAS in Biota Short						
Our Reference		210445-121	210445-124	210445-145	210445-182	210445-183
Your Reference	UNITS	Woodville_Apple	Elizabeth_Lime	Beulah_Lemon	BROOKLYN_GRAPE	BROOKLYN_NECTARINE
Date Sampled		22/01/2019	22/01/2019	22/01/2019	23/09/2019	25/01/2019
Type of sample		Biota	Biota	Biota	fruit	fruit
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	05/02/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<1	<1	<1	<1	<1
Perfluorooctanesulfonic acid PFOS	µg/kg	<1	<1	<1	1	<1
Perfluorooctanoic acid PFOA	µg/kg	<1	<1	<1	<1	<1
6:2 FTS	µg/kg	<1	<1	<1	<1	<1
8:2 FTS	µg/kg	<1	<1	<1	<1	<1
Surrogate $^{13}C_8$ *PFOS*	%	103	97	105	99	99
Surrogate $^{13}C_2$ *PFOA*	%	96	94	92	94	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	76	92	85	81	90
Extracted ISTD $^{13}C_4$ *PFOS*	%	87	104	91	92	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	81	95	89	85	88
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	76	120	88	81	99
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	85	91	74	78	110
Total Positive PFHxS & PFOS	µg/kg	<1	<1	<1	1	<1
Total Positive PFOS & PFOA	µg/kg	<1	<1	<1	1	<1

PFAS in Biota Short						
Our Reference		210445-200	210445-201	210445-202	210445-239	210445-240
Your Reference	UNITS	STMARYS_LEMON	STMARYS_ORANGE	STMARYS_NECTARINE	Paradise_apricot	PortAdelaide_EGGS-Whites
Date Sampled		23/01/2019	23/01/2019	23/01/2019	25/01/2019	22/01/2019
Type of sample		fruit	fruit	fruit	Biota	Biota
Date prepared	-	05/02/2019	05/02/2019	05/02/2019	05/02/2019	31/01/2019
Date analysed	-	06/02/2019	06/02/2019	06/02/2019	06/02/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	3	2	<1	<1	<5
Perfluorooctanesulfonic acid PFOS	µg/kg	2	<1	<1	<1	<5
Perfluorooctanoic acid PFOA	µg/kg	<1	<1	<1	<1	<5
6:2 FTS	µg/kg	<1	3	<1	<1	<5
8:2 FTS	µg/kg	<1	<1	<1	<1	<5
Surrogate $^{13}C_8$ *PFOS*	%	89	100	96	104	93
Surrogate $^{13}C_2$ *PFOA*	%	96	93	95	96	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%	89	96	86	93	95
Extracted ISTD $^{13}C_4$ *PFOS*	%	103	100	90	96	94
Extracted ISTD $^{13}C_4$ *PFOA*	%	89	111	88	89	86
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	103	#	88	93	89
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	82	127	93	91	76
Total Positive PFHxS & PFOS	µg/kg	5	2	<1	<1	<1
Total Positive PFOS & PFOA	µg/kg	2	<1	<1	<1	<1

Moisture						
Our Reference		210445-1	210445-2	210445-9	210445-10	210445-27
Your Reference	UNITS	Gawler_1	Gawler_2	Salisbury_1	Salisbury_2	Golden Grove_1
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Moisture	%	16	1.7	9.4	8.0	3.9

Moisture						
Our Reference		210445-28	210445-36	210445-37	210445-44	210445-45
Your Reference	UNITS	Golden Grove_2	Paradise_1	Paradise_2	OHalloran_1	OHalloran_2
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	21/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Moisture	%	0.4	2.0	3.4	8.1	6.7

Moisture						
Our Reference		210445-52	210445-53	210445-68	210445-69	210445-76
Your Reference	UNITS	Christie_1	Christie_2	Seaford_1	Seaford_2	Prospect_1
Date Sampled		21/01/2019	21/01/2019	21/01/2019	21/01/2019	22/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Moisture	%	5.3	12	8.8	5.8	6.9

Moisture						
Our Reference		210445-77	210445-86	210445-87	210445-94	210445-95
Your Reference	UNITS	Prospect_2	Angle_1	Angle_2	PortAdelaide_1	PortAdelaide_2
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Moisture	%	4.2	3.4	1.3	5.3	8.6

Moisture						
Our Reference		210445-103	210445-104	210445-122	210445-123	210445-137
Your Reference	UNITS	Woodville_1	Woodville_2	Elizabeth_1	Elizabeth_2	Beulah_1
Date Sampled		22/01/2019	22/01/2019	22/01/2019	22/01/2019	22/01/2019
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Moisture	%	8.5	7.4	0.4	9.7	6.9

Moisture						
Our Reference		210445-138	210445-180	210445-181	210445-190	210445-191
Your Reference	UNITS	Beulah_2	BROOKLYN_1	BROOKLYN_2	CAMDEN_1	CAMDEN_2
Date Sampled		22/01/2019	21/02/2019	22/02/2019	23/01/2019	23/01/2019
Type of sample		Soil	soil	soil	soil	soil
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Moisture	%	6.6	7.7	8.9	6.0	5.8

Moisture					
Our Reference		210445-198	210445-199	210445-213	210445-214
Your Reference	UNITS	STMARYS_1	STMARYS_2	TRAIN_1	TRAIN_2
Date Sampled		23/01/2019	23/01/2019	25/01/2019	25/01/2019
Type of sample		soil	soil	soil	soil
Date prepared	-	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Date analysed	-	01/02/2019	01/02/2019	01/02/2019	01/02/2019
Moisture	%	6.4	11	0.4	0.1

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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.
Org-035	Biota are homogenised and extracted with basified Methanol followed by SPE and/or Activated Charcoal clean-up, prior to analysis with LC-MS/MS. Samples analysed and reported on an as received basis and are therefore not corrected for moisture content. Preparation details are included in the Comments Section as required. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.1 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).

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	210445-4
Date prepared	-			01/02/2019	3	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Date analysed	-			01/02/2019	3	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	3	<0.01	<0.01	0	135	138
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	3	<0.01	<0.01	0	92	89
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	3	<0.01	<0.01	0	88	85
6:2 FTS	µg/L	0.01	Org-035	<0.01	3	<0.01	<0.01	0	94	96
8:2 FTS	µg/L	0.01	Org-035	<0.01	3	<0.01	<0.01	0	100	99
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	96	3	94	104	10	102	98
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	95	3	94	100	6	79	79
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	94	3	105	105	0	73	66
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	94	3	104	93	11	110	94
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	92	3	98	93	5	94	87
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	115	3	117	115	2	106	109
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	101	3	148	151	2	123	142

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	210445-25
Date prepared	-			[NT]	14	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Date analysed	-			[NT]	14	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	14	<0.01	<0.01	0	112	110
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	14	<0.01	<0.01	0	93	75
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	14	<0.01	<0.01	0	86	89
6:2 FTS	µg/L	0.01	Org-035	[NT]	14	<0.01	<0.01	0	92	86
8:2 FTS	µg/L	0.01	Org-035	[NT]	14	<0.01	<0.01	0	99	109
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	14	99	93	6	101	84
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	14	96	95	1	80	81
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	14	104	88	17	79	79
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	14	99	96	3	101	109
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	14	91	94	3	90	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	14	101	104	3	106	132

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	210445-25
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	14	139	141	1	124	177

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	210445-54
Date prepared	-			[NT]	24	01/02/2019	01/02/2019		03/02/2019	03/02/2019
Date analysed	-			[NT]	24	01/02/2019	01/02/2019		03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	24	0.03	0.03	0	105	108
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	24	0.73	0.75	3	92	96
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	24	<0.01	<0.01	0	101	96
6:2 FTS	µg/L	0.01	Org-035	[NT]	24	0.27	0.25	8	120	105
8:2 FTS	µg/L	0.01	Org-035	[NT]	24	0.08	0.09	12	93	94
Surrogate $^{13}C_8$ PFOS	%		Org-035	[NT]	24	82	89	8	95	103
Surrogate $^{13}C_2$ PFOA	%		Org-035	[NT]	24	99	101	2	94	89
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-035	[NT]	24	110	92	18	97	96
Extracted ISTD $^{13}C_4$ PFOS	%		Org-035	[NT]	24	121	118	3	115	110
Extracted ISTD $^{13}C_4$ PFOA	%		Org-035	[NT]	24	95	91	4	99	103
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-035	[NT]	24	#	#		76	95
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	24	179	158	12	97	99

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	210445-82
Date prepared	-			[NT]	39	01/02/2019	01/02/2019		03/02/2019	03/02/2019
Date analysed	-			[NT]	39	01/02/2019	01/02/2019		03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	39	<0.01	<0.01	0	92	123
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	39	<0.01	<0.01	0	94	96
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	39	<0.01	<0.01	0	95	100
6:2 FTS	µg/L	0.01	Org-035	[NT]	39	0.04	0.05	22	98	107
8:2 FTS	µg/L	0.01	Org-035	[NT]	39	0.07	0.07	0	85	94
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	39	99	100	1	96	104
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	39	100	99	1	90	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	39	99	95	4	107	113
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	39	91	92	1	115	108
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	39	92	89	3	97	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	39	112	113	1	84	95
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	39	145	151	4	100	100

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	210445-109
Date prepared	-			[NT]	51	03/02/2019	03/02/2019		03/02/2019	03/02/2019
Date analysed	-			[NT]	51	03/02/2019	03/02/2019		03/02/2019	03/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	89	107
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	100	104
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	99	101
6:2 FTS	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	111	118
8:2 FTS	µg/L	0.01	Org-035	[NT]	51	<0.01	<0.01	0	96	108
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	51	98	98	0	107	103
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	51	102	90	12	89	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	51	109	102	7	106	93
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	51	108	115	6	105	96
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	51	103	111	7	94	92
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	51	105	106	1	78	80

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	210445-109
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	51	100	108	8	87	83

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	210445-139
Date prepared	-			[NT]	63	03/02/2019	03/02/2019		04/02/2019	04/02/2019
Date analysed	-			[NT]	63	03/02/2019	03/02/2019		04/02/2019	04/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	63	<0.01	<0.01	0	107	100
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	63	<0.01	<0.01	0	107	105
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	63	<0.01	<0.01	0	102	101
6:2 FTS	µg/L	0.01	Org-035	[NT]	63	<0.01	<0.01	0	116	116
8:2 FTS	µg/L	0.01	Org-035	[NT]	63	<0.01	<0.01	0	111	102
Surrogate $^{13}C_8$ PFOS	%		Org-035	[NT]	63	104	93	11	88	95
Surrogate $^{13}C_2$ PFOA	%		Org-035	[NT]	63	86	88	2	96	100
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-035	[NT]	63	88	97	10	90	100
Extracted ISTD $^{13}C_4$ PFOS	%		Org-035	[NT]	63	120	125	4	94	107
Extracted ISTD $^{13}C_4$ PFOA	%		Org-035	[NT]	63	106	103	3	93	103
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-035	[NT]	63	110	108	2	78	80
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	63	132	141	7	90	92

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W7	210445-160
Date prepared	-			[NT]	81	03/02/2019	03/02/2019		05/02/2019	05/02/2019
Date analysed	-			[NT]	81	03/02/2019	03/02/2019		05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	81	<0.01	<0.01	0	93	115
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	81	<0.01	<0.01	0	108	##
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	81	<0.01	<0.01	0	99	100
6:2 FTS	µg/L	0.01	Org-035	[NT]	81	0.11	0.13	17	98	102
8:2 FTS	µg/L	0.01	Org-035	[NT]	81	0.04	0.03	29	98	100
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	81	107	92	15	102	109
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	81	87	87	0	100	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	81	99	116	16	105	127
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	81	107	118	10	99	94
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	81	102	103	1	97	108
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	81	96	91	5	90	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	81	95	103	8	110	142

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W8	210445-184
Date prepared	-			[NT]	93	03/02/2019	03/02/2019		05/02/2019	05/02/2019
Date analysed	-			[NT]	93	03/02/2019	03/02/2019		05/02/2019	05/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	93	<0.01	<0.01	0	107	109
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	93	<0.01	<0.01	0	103	106
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	93	<0.01	<0.01	0	99	96
6:2 FTS	µg/L	0.01	Org-035	[NT]	93	<0.01	<0.01	0	96	97
8:2 FTS	µg/L	0.01	Org-035	[NT]	93	<0.01	<0.01	0	101	111
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	93	101	99	2	100	106
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	93	91	83	9	102	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	93	119	123	3	94	106
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	93	111	113	2	101	104
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	93	102	108	6	96	106
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	93	98	98	0	91	121

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W8	210445-184
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	93	88	104	17	113	120

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W9	210445-211
Date prepared	-			[NT]	108	03/02/2019	03/02/2019		06/02/2019	06/02/2019
Date analysed	-			[NT]	108	03/02/2019	03/02/2019		06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	108	<0.01	<0.01	0	109	110
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	108	<0.01	<0.01	0	108	104
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	108	<0.01	<0.01	0	95	101
6:2 FTS	µg/L	0.01	Org-035	[NT]	108	<0.01	<0.01	0	107	127
8:2 FTS	µg/L	0.01	Org-035	[NT]	108	<0.01	<0.01	0	113	102
Surrogate $^{13}C_8$ PFOS	%		Org-035	[NT]	108	105	108	3	107	104
Surrogate $^{13}C_2$ PFOA	%		Org-035	[NT]	108	85	87	2	90	91
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-035	[NT]	108	120	111	8	111	82
Extracted ISTD $^{13}C_4$ PFOS	%		Org-035	[NT]	108	103	103	0	104	106
Extracted ISTD $^{13}C_4$ PFOA	%		Org-035	[NT]	108	101	102	1	97	89
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-035	[NT]	108	101	95	6	87	101
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	108	91	97	6	91	105

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W10	210445-233
Date prepared	-			[NT]	126	03/02/2019	03/02/2019		06/02/2019	06/02/2019
Date analysed	-			[NT]	126	03/02/2019	03/02/2019		06/02/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	126	0.03	0.03	0	93	113
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	126	0.22	0.22	0	100	##
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	126	<0.01	<0.01	0	94	92
6:2 FTS	µg/L	0.01	Org-035	[NT]	126	0.02	0.03	40	103	97
8:2 FTS	µg/L	0.01	Org-035	[NT]	126	<0.01	<0.01	0	115	114
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	126	101	105	4	99	108
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	126	93	87	7	82	80
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	126	104	113	8	95	85
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	126	103	98	5	112	97
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	126	97	102	5	94	96
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	126	93	94	1	92	112
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	126	95	99	4	90	95

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	136	04/02/2019	04/02/2019		[NT]	[NT]
Date analysed	-			[NT]	136	04/02/2019	04/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	136	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	136	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	136	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	136	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	136	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	136	101	95	6	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	136	100	100	0	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	136	93	95	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	136	97	103	6	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	136	100	103	3	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	136	82	90	9	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	136	89	83	7	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	148	04/02/2019	04/02/2019		[NT]	[NT]
Date analysed	-			[NT]	148	04/02/2019	04/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	148	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	148	0.04	0.04	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	148	0.02	0.02	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	148	0.37	0.35	6	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	148	0.11	0.11	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	148	107	100	7	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	148	101	106	5	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	148	118	125	6	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	148	100	109	9	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	148	112	115	3	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	148	#	#		[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	148	91	101	10	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	159	05/02/2019	05/02/2019		[NT]	[NT]
Date analysed	-			[NT]	159	05/02/2019	05/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	159	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	159	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	159	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	159	0.04	0.04	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	159	0.04	0.04	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	159	102	102	0	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	159	95	95	0	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	159	97	102	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	159	102	94	8	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	159	102	99	3	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	159	100	108	8	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	159	102	97	5	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	169	05/02/2019	05/02/2019		[NT]	[NT]
Date analysed	-			[NT]	169	05/02/2019	05/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	169	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	169	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	169	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	169	0.12	0.13	8	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	169	0.06	0.05	18	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	169	98	97	1	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	169	89	89	0	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	169	99	101	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	169	101	105	4	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	169	106	111	5	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	169	115	119	3	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	169	99	112	12	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	179	05/02/2019	05/02/2019		[NT]	[NT]
Date analysed	-			[NT]	179	05/02/2019	05/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	179	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	179	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	179	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	179	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	179	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	179	103	103	0	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	179	106	98	8	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	179	107	100	7	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	179	104	104	0	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	179	101	102	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	179	102	106	4	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	179	111	114	3	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	195	05/02/2019	05/02/2019		[NT]	[NT]
Date analysed	-			[NT]	195	05/02/2019	05/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	195	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	195	0.01	0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	195	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	195	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	195	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	195	105	101	4	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	195	91	95	4	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	195	99	93	6	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	195	104	102	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	195	109	104	5	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	195	113	115	2	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	195	109	119	9	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	210	06/02/2019	06/02/2019		[NT]	[NT]
Date analysed	-			[NT]	210	06/02/2019	06/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	210	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	210	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	210	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	210	0.01	0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	210	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	210	95	101	6	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	210	86	88	2	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	210	98	111	12	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	210	103	106	3	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	210	97	97	0	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	210	118	123	4	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	210	107	96	11	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	222	06/02/2019	06/02/2019		[NT]	[NT]
Date analysed	-			[NT]	222	06/02/2019	06/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	222	0.01	0.02	67	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	222	0.14	0.15	7	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	222	0.04	0.04	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	222	0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	222	0.02	0.02	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	222	106	103	3	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	222	85	81	5	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	222	96	96	0	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	222	103	106	3	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	222	99	104	5	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	222	133	139	4	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	222	99	101	2	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	232	06/02/2019	06/02/2019		[NT]	[NT]
Date analysed	-			[NT]	232	06/02/2019	06/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	232	0.07	0.07	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	232	0.43	0.42	2	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	232	0.1	0.09	11	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	232	0.75	0.74	1	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	232	0.48	0.44	9	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	232	109	102	7	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	232	86	82	5	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	232	87	99	13	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	232	102	106	4	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	232	100	104	4	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	232	#	#		[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	232	98	106	8	[NT]	[NT]

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	210445-2
Date prepared	-			01/02/2019	1	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Date analysed	-			01/02/2019	1	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	<0.1	1	<0.1	<0.1	0	114	116
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1	1	3.4	3.2	6	102	##
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1	1	<0.1	<0.1	0	108	112
6:2 FTS	µg/kg	0.1	Org-035	<0.1	1	<0.1	<0.1	0	120	120
8:2 FTS	µg/kg	0.1	Org-035	<0.1	1	<0.1	<0.1	0	108	106
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	101	1	104	106	2	103	100
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	99	1	97	96	1	99	95
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	94	1	81	81	0	92	92
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	91	1	85	85	0	89	86
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	89	1	80	82	2	87	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	101	1	132	139	5	100	96
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	111	1	148	164	10	97	79

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	210445-104
Date prepared	-			[NT]	52	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Date analysed	-			[NT]	52	01/02/2019	01/02/2019		01/02/2019	01/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	[NT]	52	6.0	5.8	3	112	106
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	[NT]	52	360	400	11	106	##
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	[NT]	52	3.0	3.2	6	108	108
6:2 FTS	µg/kg	0.1	Org-035	[NT]	52	0.5	0.5	0	116	126
8:2 FTS	µg/kg	0.1	Org-035	[NT]	52	11	12	9	98	92
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	52	110	121	10	110	105
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	52	103	90	13	100	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	52	92	94	2	101	93
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	52	71	64	10	100	77
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	52	84	79	6	101	89
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	52	146	108	30	108	138

QUALITY CONTROL: PFAs in Soils Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	210445-104
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	52	77	56	32	109	165

QUALITY CONTROL: PFAs in Soils Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	103	01/02/2019	01/02/2019		[NT]	[NT]
Date analysed	-			[NT]	103	01/02/2019	01/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	[NT]	103	41	39	5	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	[NT]	103	210	210	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	[NT]	103	4.0	4.4	10	[NT]	[NT]
6:2 FTS	µg/kg	0.1	Org-035	[NT]	103	<0.1	<0.1	0	[NT]	[NT]
8:2 FTS	µg/kg	0.1	Org-035	[NT]	103	<0.1	<0.1	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	103	113	107	5	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	103	100	99	1	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	103	88	90	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	103	124	120	3	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	103	90	89	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	103	165	166	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	103	170	175	3	[NT]	[NT]

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	198	01/02/2019	01/02/2019		[NT]	[NT]
Date analysed	-			[NT]	198	01/02/2019	01/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	[NT]	198	20	19	5	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	[NT]	198	200	210	5	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	[NT]	198	3.4	3.1	9	[NT]	[NT]
6:2 FTS	µg/kg	0.1	Org-035	[NT]	198	2.7	2.0	30	[NT]	[NT]
8:2 FTS	µg/kg	0.1	Org-035	[NT]	198	2.4	2.0	18	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	198	117	116	1	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	198	108	103	5	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	198	90	94	4	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	198	117	125	7	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	198	94	104	10	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	198	105	116	10	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	198	120	118	2	[NT]	[NT]

QUALITY CONTROL: PFAS in Biota Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	210445-66
Date prepared	-			31/01/2019	29	05/02/2019	05/02/2019		31/01/2019	05/02/2019
Date analysed	-			31/01/2019	29	06/02/2019	06/02/2019		31/01/2019	06/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	1	Org-035	<1	29	<1	<1	0	106	112
Perfluorooctanesulfonic acid PFOS	µg/kg	1	Org-035	<1	29	<1	<1	0	97	94
Perfluorooctanoic acid PFOA	µg/kg	1	Org-035	<1	29	<1	<1	0	106	100
6:2 FTS	µg/kg	1	Org-035	<1	29	<1	<1	0	118	111
8:2 FTS	µg/kg	1	Org-035	<1	29	<1	<1	0	130	125
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	108	29	106	101	5	103	100
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	81	29	100	94	6	92	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	85	29	93	83	11	104	86
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	87	29	101	89	13	106	92
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	85	29	88	85	3	91	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	85	29	96	94	2	90	192
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	78	29	79	78	1	73	91

QUALITY CONTROL: PFAS in Biota Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	210445-96
Date prepared	-			[NT]	124	05/02/2019	05/02/2019		05/02/2019	31/01/2019
Date analysed	-			[NT]	124	06/02/2019	06/02/2019		06/02/2019	31/01/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	1	Org-035	[NT]	124	<1	<1	0	101	124
Perfluorooctanesulfonic acid PFOS	µg/kg	1	Org-035	[NT]	124	<1	<1	0	101	#
Perfluorooctanoic acid PFOA	µg/kg	1	Org-035	[NT]	124	<1	<1	0	95	120
6:2 FTS	µg/kg	1	Org-035	[NT]	124	<1	<1	0	106	90
8:2 FTS	µg/kg	1	Org-035	[NT]	124	<1	<1	0	105	#
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	124	97	96	1	95	114
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	124	94	94	0	100	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	124	92	87	6	92	88
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	124	104	96	8	95	76
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	124	95	88	8	90	76
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	124	120	106	12	101	77

QUALITY CONTROL: PFAS in Biota Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	210445-96
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	124	91	81	12	89	66

Result Definitions

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

Quality Control Definitions

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

Duplicates: >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; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

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).

Percent recovery is not possible to report due to the high concentration of the compound/s in the sample/s. However an acceptable recovery was obtained for the LCS.

PFAS_BIOTA_EXT1: PQLs raised for sample 240 due to sample matrix interference.

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
Telephone: 618 8111 6800 Facsimile: 618 8111 6899
Email: admail@ghd.com.au

GHD Mt Gambier
2A Helen St, Mt Gambier SA 5290
Telephone: 618 8721 0800 Facsimile: 618 8721 0899

GHD Roxby Downs
1/14 Tietop St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement
☒ STANDARD
☐ NON-STANDARD

SEND TO: ELS Sydney

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	Meilyn Herbertt	ELS A.Stenta		Tony. D
Project		Date/Time:	Date/Time:	Date/Time:	Date/Time:
Largs North Station & Gallantry PFAS testing		31/1/19	31/1/19		4.2.19

GHD Project Manager	GHD Contact
Dilara Valiff	Dilara Valiff
Email Reports to: dilara.valiff@ghd.com joel.chance@ghd.com julian.howard@ghd.com	Quote 19SA002

	Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	PFAS - SHORT - SUITE
1	ADL1101-DDS	31/1		W	P×1	✓
2	ADL1101-DPS	31/1		↓	↓	✓
3	ADL1101-RDS	31/1				✓
4	ADL1101-RPS	31/1				✓
5	ADL1101-T	31/1				✓
6	ADL1101-M	31/1		↓	↓	✓

Analyses Required

Remarks

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 210700

Date Received: 4.2.19
Time Received: 10:15
Received by: JS
Temp: Cool/Ambient: 26.7°C
Cooling: Ice/Icepack
Security: Intact/Broken/None

Remarks:

ALS Laboratories
2-4 Westall Rd, SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact:

☑ MGT LabMark
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact:

SGS
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact:

BUREAU VERITAS AMDEL
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

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

CERTIFICATE OF ANALYSIS 210700

Client Details

Client	GHD Pty Ltd
Attention	Joel Chance, Julian Howard, Dilara Valiff
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080, Largs North Station & Gallantry PFAS Test**
Number of Samples	6 Water
Date samples received	04/02/2019
Date completed instructions received	04/02/2019

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	11/02/2019
Date of Issue	11/02/2019

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
Alexander Mitchell Maclean, Senior Chemist

Authorised By

Jacinta Hurst, Laboratory Manager

PFAS in Waters Short						
Our Reference		210700-1	210700-2	210700-3	210700-4	210700-5
Your Reference	UNITS	ADL1101-DDS	ADL1101-DPS	ADL1101-RDS	ADL1101-RPS	ADL1101-T
Date Sampled		31/01/2019	31/01/2019	31/01/2019	31/01/2019	31/01/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.30	0.14	0.12	0.17	0.13
8:2 FTS	µg/L	0.03	0.02	0.08	0.04	0.02
Surrogate $^{13}C_8$ *PFOS*	%	108	102	114	114	103
Surrogate $^{13}C_2$ *PFOA*	%	105	100	105	94	106
Extracted ISTD $^{18}O_2$ *PFHxS*	%	113	104	110	113	105
Extracted ISTD $^{13}C_4$ *PFOS*	%	99	99	86	93	104
Extracted ISTD $^{13}C_4$ *PFOA*	%	86	100	99	96	92
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	85	97	163	94	95
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	96	104	96	101	112
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.33	0.17	0.20	0.21	0.15

PFAS in Waters Short		
Our Reference		210700-6
Your Reference	UNITS	ADL1101-M
Date Sampled		31/01/2019
Type of sample		Water
Date prepared	-	08/02/2019
Date analysed	-	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01
6:2 FTS	µg/L	0.14
8:2 FTS	µg/L	0.01
Surrogate $^{13}C_8$ *PFOS*	%	112
Surrogate $^{13}C_2$ *PFOA*	%	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%	89
Extracted ISTD $^{13}C_4$ *PFOS*	%	99
Extracted ISTD $^{13}C_4$ *PFOA*	%	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	88
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	104
Total Positive PFHxS & PFOS	µg/L	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01
Total Positive PFAS	µg/L	0.15

Method ID	Methodology Summary
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	210700-2
Date prepared	-			08/02/2019	1	08/02/2019	08/02/2019		08/02/2019	08/02/2019
Date analysed	-			08/02/2019	1	08/02/2019	08/02/2019		08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	96	105
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	100	108
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	101	95
6:2 FTS	µg/L	0.01	Org-035	<0.01	1	0.30	0.30	0	93	100
8:2 FTS	µg/L	0.01	Org-035	<0.01	1	0.03	0.04	29	110	118
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	114	1	108	107	1	97	113
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	101	1	105	100	5	101	95
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	101	1	113	122	8	94	100
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	85	1	99	98	1	99	95
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	97	1	86	86	0	92	99
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	93	1	85	84	1	90	91
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	93	1	96	68	34	86	94

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
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NR	Not Reported

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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.
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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; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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Report Comments

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CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
Telephone 618 8111 6600 Facsimile 618 8111 6699
Email adlmail@ghd.com.au

GHD Mt Gambier
2A Helen St, Mt Gambier SA 5290
Telephone 618 8721 0800 Facsimile 618 8721 0899

GHD Roxby Downs
1/14 Tutop St, Roxby Downs SA
Telephone 618 8671 4000 Facsimile 618 8671 4099

Turnaround Requirement:
X STANDARD
☐ NON-STANDARD _____

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	Robert Webb	T. Nguyen		
Project		Date/Time:	Date/Time: 30.1.19 10:26.	Date/Time:	Date/Time:
MFS PFAS Inv		25/01/2019			

GHD Project Manager	GHD Contact
Julian Howard	Robert Webb
Email Reports to: Robert.Webb2@ghd.com; Julian.Howard@ghd.com	Quote

SEND TO:

☐ **ALS Laboratories**
2-4 Westall Rd, SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact:

☐ **MGT LabMark**
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact:

☐ **SGS**
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact:

☐ **BUREAU VERTIAS AMDEL**
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	Analyses Required: PFAS short suite	Remarks
186_tank 1			W		x	
186_monitor 2			W		x	
186_hose L 3			W		x	
186_hose R 4			W		x	
186_delivery L 5			W		x	
186_delivery R 6			W		x	
176_tank 7			W		x	
176_delivery R 8			W		x	
176_delivery L 9			W		x	
207_hose 10			W		x	
207_delivery 11			W		x	
1501_hose L 12			W		x	
1501_hose R 13			W		x	
1501_delivery L 14			W		x	
1501_delivery R 15			W		x	
203_delivery L 16			W		x	
203_delivery R 17			W		x	
203_hose L 18			W		x	
203_hose R 19			W		x	
203_tank 20			W		x	

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 210706

Date Received: 30.1.19
Time Received: 10:26
Received by: TN
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Remarks:

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
Telephone: 618 8111 6600 Facsimile: 618 8111 6599
Email: adimail@ghd.com.au

GHD Mt Gambier
2A Helen St, Mt Gambier SA 5290
Telephone: 618 8721 0600 Facsimile: 618 8721 0699

GHD Roxby Downs
1/14 Tutop St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement:
X STANDARD
☐ NON-STANDARD

210706

Job Number	GHD Office Adelaide	Relinquished By: Robert Webb	Received By: Tony Duffy	Relinquished By:	Received By:
Project MFS		Date/Time:	Date/Time: 30.1.19 10:26	Date/Time:	Date/Time:
GHD Project Manager	GHD Contact Robert Webb				
Email Reports to: Robert.Webb2@ghd.com Julian.Howard@ghd.com	Quote				

SEND TO:

☐ **ALS Laboratories**
2-4 Westall Rd, SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact:

☐ **MGT LabMark**
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact:

☐ **SGS**
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact:

☐ **BUREAU VERTIAS AMDEL**
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

Sample I.D.	Date	Time	Sample Matrix B: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	Analyses Required: PFAS short suite	Remarks
097_tank 21			W		x	
097_mointor 22			W		x	
097_hose L 23			W		x	
097_hose R 24			W		x	
097_delivery L 25			W		x	
097_delivery R 26			W		x	
175_tank 27			W		x	
175_monitor 28			W		x	
175_hose L 29			W		x	
175-hose R 30			W		x	
175_delivery R 31			W		x	
175_delivery L 32			W		x	
212_delivery 33			W		x	
212_hose 34			W		x	
1014_hose L 35			W		x	
1014_hose R 36			W		x	
1014_monitor 37			W		x	
1014_delivery L 38			W		x	
1014_delivery R 39			W		x	
1014_tank 40			W		x	

Remarks:

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
Telephone: 618 8111 6600 Facsimile: 618 8111 6699
Email: adlmail@ghd.com.au

GHD Mt Gambier
2A Helen St, Mt Gambier SA 5290
Telephone: 618 8721 0600 Facsimile: 618 8721 0699

GHD Roxby Downs
1/14 Tutop St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement:
X STANDARD
☐ NON-STANDARD

210706

Job Number	GHD Office Adelaide	Relinquished By: Robert Webb	Received By: T.D.Lyn	Relinquished By:	Received By:
Project		Date/Time:	Date/Time: 30.1.19	Date/Time:	Date/Time:

GHD Project Manager	GHD Contact Robert Webb
Email Reports to: Robert.Webb2@ghd.com Julian.Howard@ghd.com	Quote

SEND TO:

☐ **ALS Laboratories**
2-4 Westall Rd, SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact:

☐ **MGT LabMark**
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact:

☐ **SGS**
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact:

☐ **BUREAU VERTIAS AMDEL**
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

Sample I.D.	Date	Time	Sample Matrix S: Soil, SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	Analyses Required: PFAS short suite	Remarks
151_hose 41			W		x	
151_delivery 42			W		x	
193_hose L 43			W		x	
193_hose R 44			W		x	
193_delivery L 45			W		x	
193_delivery R 46			W		x	
193_tank 47			W		x	
191_delivery L 48			W		x	
191_delivery R 49			W		x	
191_hose L 50			W		x	
191_hose R 51			W		x	
191_tank 52			W		x	
191_monitor 53			W		x	
K178_delivery L 54			W		x	
K178_delivery R 55			W		x	
K178_tank 56			W		x	
K178_monitor 57			W		x	
K178_hose L 58			W		x	
K178_hose R 59			W		x	

Remarks:

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
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Email: adimail@ghd.com.au

GHD Mt Gambier
2A Helen St, Mt Gambier SA 5290
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GHD Roxby Downs
1/14 Tutop St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement:
X STANDARD
☐ NON-STANDARD

210706

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
	Adelaide	Robert Webb			
Project		Date/Time:	Date/Time: 30/1/19	Date/Time:	Date/Time:
GHD Project Manager	GHD Contact: Robert Webb				
Email Reports to: Robert.Webb2@ghd.com; Julian.Howard@ghd.com	Quote				

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Contact:

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Ph: 02 8594 0400
Contact:

☐ **BUREAU VERTIAS AMDEL**
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	Analyses Required: PFAS short suite	Remarks
206_delivery 60			W		x	
206_hose 61			W		x	
179_hose 62			W		x	
179_delivery 63			W		x	
178_hose 64			W		x	
178_tank 65			W		x	
178_monitor 66			W		x	
178_delivery 67			W		x	
172_tank 68			W		x	
172_monitor 69			W		x	
172_delivery L 70			W		x	
172_delivery R 71			W		x	
172_hose L 72			W		x	
172_hose R 73			W		x	
201_hose L 74			W		x	
201_hose R 75			W		x	
201_delivery L 76			W		x	
201_delivery R 77			W		x	
201_tank 78			W		x	

Remarks:

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
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Turnaround Requirement:
X STANDARD
☐ NON-STANDARD

210706

Job Number	GHD Office Adelaide	Relinquished By: Robert Webb	Received By:	Relinquished By:	Received By:
Project		Date/Time:	Date/Time: 30.1.19	Date/Time:	Date/Time:

GHD Project Manager	GHD Contact Robert Webb
Email Reports to: Robert.Webb2@ghd.com Julian.Howard@ghd.com	Quote

SEND TO:

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Contact:

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Ph: 02 8594 0400
Contact:

☐ **BUREAU VERTIAS AMDEL**
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	Analyses Required: PFAS short suite	Remarks
196_hose L 79			W		X	
196_hose R 80			W		X	
196_tank 81			W		X	
196_delivery L 82			W		X	
196_delivery R 83			W		X	
205_hose 84			W		X	
205_delivery 85			W		X	
205_tank 86			W		X	
980_monitor 87			W		X	
980_delivery L 88			W		X	
980_delivery R 89			W		X	
980_tank 90			W		X	
980_hose L 91			W		X	
980_hose R 92			W		X	
1003_tank 93			W		X	
1003_monitor 94			W		X	
1003_hose L 95			W		X	
1003_hose R 96			W		X	
1003_delivery L 97			W		X	
1003_delivery R 98					X	

Remarks:

CHAIN OF CUSTODY RECORD

GHD

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211 Victoria Square, Adelaide SA 5000
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1/14 Tutop St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement:
X STANDARD
☐ NON-STANDARD _____

210706

Job Number	GHD Office Adelaide	Relinquished By: Robert Webb	Received By: T. Dang	Relinquished By:	Received By:
Project		Date/Time:	Date/Time: 30.1.19	Date/Time:	Date/Time:

GHD Project Manager	GHD Contact Robert Webb
Email Reports to: Robert.Webb2@ghd.com Julian.Howard@ghd.com	Quote

SEND TO:

☐ **ALS Laboratories**
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Ph: 03 8549 9600
Contact:

☐ **MGT LabMark**
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Contact:

☐ **SGS**
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Ph: 02 8594 0400
Contact:

☐ **BUREAU VERTIAS AMDEL**
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	Analyses Required: SA Waste Screen	Metals	PAHS	TRH/BTEXN	Leach analysis												Remarks
Whyalla_1 99			S		X																
Whyalla_2 100			S		X																
Peterborough_1 101			S		X																
Peterborough_2 102			S		X																
Port Lincoln_1 103			S		X																
Port Lincoln_2 104			S		X																
Moonta_1 105			S		X																
Moonta_2 106			S		X																
Wallaroo_1 107			S		X																
Wallaroo_2 108			S		X																
Kadina_1 109			S																		Please keep on hold
Kadina_2 110			S																		Please keep on hold
Port Augusta_1 111			S		X																
Port Augusta_2 112			S		X																
Port Pirie_1 113			S																		Please keep on hold
Port Pirie_2 114			S																		Please keep on hold
Port Pirie_3 115			S		X																
Port Pirie_4 116			S		X																

Remarks:

21070-6

Page 7 of 7

CHAIN OF CUSTODY RECORD

GHD

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GHD Roxby Downs
1/14 Tutop St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement:
X STANDARD
☐ NON-STANDARD _____

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
	Adelaide	Robert Webb	T. Dhu		
Project		Date/Time:	Date/Time: 30.1.19	Date/Time:	Date/Time:

GHD Project Manager	GHD Contact	Analyses Required
	Robert Webb	
Email Reports to: Robert.Webb2@ghd.com; Julian.Howard@ghd.com	Quote	

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Contact

☐ **BUREAU VERTIAS AMDEL**
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact

Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial, G: Glass bottle; P: Plastic bottle	PFAS short suite	Remarks
QCRW_1 tank 117			W		X	
QCRW_1 monitor 118			W		X	
QCRW_1 delivery L 119			W		X	
QCRW_1 delivery R 110			W		X	
QCRW_1 hose L 121			W		X	
QCRW_1 hose R 122			W		X	
QCRW_2 tank			W		X	Please forward to ALS
QCRW_2 monitor			W		X	Please forward to ALS
QCRW_2 hose L			W		X	Please forward to ALS
QCRW_2 hose R			W		X	Please forward to ALS
QCRW_2 delivery R			W		X	Please forward to ALS
QCRW_2 delivery L			W		X	Please forward to ALS
QCRW_3 tank 123			W		X	
QCRW_3 monitor 124			W		X	
QCRW_3 hose L 125			W		X	
QCRW_3 hose R 126			W		X	
QCRW_3 delivery L 127			W		X	
QCRW_3 delivery R 128			W		X	
QCRW_4 delivery			W		X	Please forward to ALS
QCRW_4 hose			W		X	Please forward to ALS
QCRW_5 129			S		X	
QCRW_6			S		X	Please forward to ALS
QCRW_7 130			S			

Remarks: 131: RB_RW1, 132: RB_RW2, 133: RBRW#3, 134: RB_RW4 → extras.

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

CERTIFICATE OF ANALYSIS 210706

Client Details

Client	GHD Pty Ltd
Attention	Julian Howard, Robert Webb
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080, MFS PFAS Inv**
Number of Samples	114 Water, 20 Soil
Date samples received	04/02/2019
Date completed instructions received	06/02/2019

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	18/02/2019
Date of Issue	18/02/2019

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Results Approved By
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Jacinta Hurst, Laboratory Manager

PFAs in Soils Short						
Our Reference		210706-99	210706-100	210706-101	210706-102	210706-103
Your Reference	UNITS	Whyalla_1	Whyalla_2	Peterborough_1	Peterborough_2	Port Lincoln_1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	4.5	3.3	2.6	8.6	1.1
Perfluorooctanesulfonic acid PFOS	µg/kg	90	30	340	160	17
Perfluorooctanoic acid PFOA	µg/kg	<1	1.7	0.3	1	<2
6:2 FTS	µg/kg	2.1	0.7	<0.1	0.4	<2
8:2 FTS	µg/kg	2.1	2.1	<0.1	0.1	<2
Surrogate $^{13}C_8$ *PFOS*	%	86	89	120	114	119
Surrogate $^{13}C_2$ *PFOA*	%	99	92	96	94	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	107	85	93	93	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	87	73	94	97	76
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	65	87	93	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	84	68	90	91	96
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	69	41	92	95	85
Total Positive PFHxS & PFOS	µg/kg	94	33	340	170	19
Total Positive PFOS & PFOA	µg/kg	90	32	340	160	17
Total Positive PFAS	µg/kg	99	38	340	170	19

PFAs in Soils Short						
Our Reference		210706-104	210706-105	210706-106	210706-107	210706-108
Your Reference	UNITS	Port Lincoln_2	Moonta_1	Moonta_2	Wallaroo_1	Wallaroo_2
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	0.6	3.5	1.6	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.3	10	36	15	0.4
Perfluorooctanoic acid PFOA	µg/kg	<0.1	0.1	0.5	0.3	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate $^{13}C_8$ *PFOS*	%	107	89	101	100	104
Surrogate $^{13}C_2$ *PFOA*	%	91	91	94	89	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	98	96	100	94
Extracted ISTD $^{13}C_4$ *PFOS*	%	87	91	88	87	84
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	101	90	98	93
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	91	94	106	108	92
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	73	101	125	103	88
Total Positive PFHxS & PFOS	µg/kg	0.3	11	40	17	0.4
Total Positive PFOS & PFOA	µg/kg	0.3	10	37	15	0.4
Total Positive PFAS	µg/kg	0.3	11	40	17	0.4

PFAs in Soils Short						
Our Reference		210706-111	210706-112	210706-115	210706-116	210706-129
Your Reference	UNITS	Port Augusta_1	Port Augusta_2	Port Pirie_3	Port Pirie_4	QCRW_5
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	1.8	23	1	2.2	1.0
Perfluorooctanesulfonic acid PFOS	µg/kg	80	490	55	62	19
Perfluorooctanoic acid PFOA	µg/kg	1.5	7.1	0.2	0.2	<2
6:2 FTS	µg/kg	49	90	<0.1	<0.1	<2
8:2 FTS	µg/kg	47	260	0.2	<0.1	<2
Surrogate $^{13}C_8$ *PFOS*	%	103	110	103	97	111
Surrogate $^{13}C_2$ *PFOA*	%	95	93	95	95	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	95	100	100	90
Extracted ISTD $^{13}C_4$ *PFOS*	%	90	87	94	92	82
Extracted ISTD $^{13}C_4$ *PFOA*	%	73	68	96	96	84
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	85	82	90	95	49
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	74	65	84	94	59
Total Positive PFHxS & PFOS	µg/kg	82	510	56	64	21
Total Positive PFOS & PFOA	µg/kg	81	500	55	62	19
Total Positive PFAS	µg/kg	180	870	56	64	21

PFAs in Soils Short		
Our Reference		210706-130
Your Reference	UNITS	QCRW_7
Type of sample		Soil
Date prepared	-	08/02/2019
Date analysed	-	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	8.1
Perfluorooctanesulfonic acid PFOS	µg/kg	150
Perfluorooctanoic acid PFOA	µg/kg	1.0
6:2 FTS	µg/kg	0.4
8:2 FTS	µg/kg	0.2
Surrogate $^{13}C_8$ *PFOS*	%	116
Surrogate $^{13}C_2$ *PFOA*	%	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	77
Extracted ISTD $^{13}C_4$ *PFOA*	%	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	93
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	85
Total Positive PFHxS & PFOS	µg/kg	160
Total Positive PFOS & PFOA	µg/kg	150
Total Positive PFAS	µg/kg	160

Moisture						
Our Reference		210706-99	210706-100	210706-101	210706-102	210706-103
Your Reference	UNITS	Whyalla_1	Whyalla_2	Peterborough_1	Peterborough_2	Port Lincoln_1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/02/2019	07/02/2019	07/02/2019	07/02/2019	07/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Moisture	%	40	34	9.5	5.7	6.2

Moisture						
Our Reference		210706-104	210706-105	210706-106	210706-107	210706-108
Your Reference	UNITS	Port Lincoln_2	Moonta_1	Moonta_2	Wallaroo_1	Wallaroo_2
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/02/2019	07/02/2019	07/02/2019	07/02/2019	07/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Moisture	%	3.2	0.7	14	2.6	8.1

Moisture						
Our Reference		210706-111	210706-112	210706-115	210706-116	210706-129
Your Reference	UNITS	Port Augusta_1	Port Augusta_2	Port Pirie_3	Port Pirie_4	QCRW_5
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	07/02/2019	07/02/2019	07/02/2019	07/02/2019	07/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Moisture	%	0.7	35	0.4	3.5	13

Moisture		
Our Reference		210706-130
Your Reference	UNITS	QCRW_7
Type of sample		Soil
Date prepared	-	07/02/2019
Date analysed	-	08/02/2019
Moisture	%	3.9

PFAS in Waters Short						
Our Reference		210706-1	210706-2	210706-3	210706-4	210706-5
Your Reference	UNITS	186_tank	186_monitor	186_hose L	186_hose R	186_delivery L
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	07/02/2019	07/02/2019	07/02/2019	07/02/2019	07/02/2019
Date analysed	-	07/02/2019	07/02/2019	07/02/2019	07/02/2019	07/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.02	0.03	0.02	0.04
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	0.45	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	0.15	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	95	98	100	99	101
Surrogate $^{13}C_2$ *PFOA*	%	112	104	102	103	105
Extracted ISTD $^{18}O_2$ *PFHxS*	%	104	101	102	105	98
Extracted ISTD $^{13}C_4$ *PFOS*	%	96	93	92	96	89
Extracted ISTD $^{13}C_4$ *PFOA*	%	100	101	103	100	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	92	98	97	103	97
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	84	85	87	84	78
Total Positive PFHxS & PFOS	µg/L	<0.01	0.02	0.03	0.02	0.04
Total Positive PFOA & PFOS	µg/L	<0.01	0.02	0.03	0.03	0.04
Total Positive PFAS	µg/L	<0.01	0.02	0.03	0.63	0.04

PFAS in Waters Short						
Our Reference		210706-6	210706-7	210706-8	210706-9	210706-10
Your Reference	UNITS	186_delivery R	176_tank	176_delivery R	176_delivery L	207_hose
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	07/02/2019	07/02/2019	07/02/2019	07/02/2019	07/02/2019
Date analysed	-	07/02/2019	07/02/2019	07/02/2019	07/02/2019	07/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.06	<0.01	0.12	0.13	0.07
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	97	94	96	103	108
Surrogate $^{13}C_2$ *PFOA*	%	103	109	108	112	113
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100	98	98	99	98
Extracted ISTD $^{13}C_4$ *PFOS*	%	92	91	88	87	84
Extracted ISTD $^{13}C_4$ *PFOA*	%	101	96	98	96	85
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	92	90	95	100	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	81	77	77	85	81
Total Positive PFHxS & PFOS	µg/L	0.06	<0.01	0.12	0.13	0.07
Total Positive PFOA & PFOS	µg/L	0.06	<0.01	0.12	0.13	0.07
Total Positive PFAS	µg/L	0.07	<0.01	0.12	0.13	0.07

PFAS in Waters Short						
Our Reference		210706-11	210706-12	210706-13	210706-14	210706-15
Your Reference	UNITS	207_delivery	1501_hose L	1501_hose R	1501_delivery L	1501_delivery R
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	07/02/2019	07/02/2019	07/02/2019	07/02/2019	07/02/2019
Date analysed	-	07/02/2019	07/02/2019	07/02/2019	07/02/2019	07/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.04	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.04	<0.01	0.07	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	88	100	99	99	99
Surrogate $^{13}C_2$ *PFOA*	%	104	106	112	108	112
Extracted ISTD $^{18}O_2$ *PFHxS*	%	98	94	96	95	96
Extracted ISTD $^{13}C_4$ *PFOS*	%	94	91	88	82	85
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	96	96	97	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	92	95	100	102	103
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	83	83	86	123	#
Total Positive PFHxS & PFOS	µg/L	0.04	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.04	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.04	0.04	<0.01	0.08	<0.01

PFAS in Waters Short						
Our Reference		210706-16	210706-17	210706-18	210706-19	210706-20
Your Reference	UNITS	203_delivery L	203_delivery R	203_hose L	203_hose R	203_tank
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	07/02/2019	07/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	07/02/2019	07/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	0.05
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.02	0.02	<0.01	0.78
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	0.01
6:2 FTS	µg/L	<0.01	0.01	<0.01	0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	99	106	99	106	106
Surrogate $^{13}C_2$ *PFOA*	%	104	105	95	98	101
Extracted ISTD $^{18}O_2$ *PFHxS*	%	93	91	90	93	91
Extracted ISTD $^{13}C_4$ *PFOS*	%	81	80	90	90	89
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	93	93	95	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	88	85	87	91	83
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	82	82	86	88	82
Total Positive PFHxS & PFOS	µg/L	<0.01	0.02	0.02	<0.01	0.83
Total Positive PFOA & PFOS	µg/L	<0.01	0.02	0.02	<0.01	0.79
Total Positive PFAS	µg/L	<0.01	0.04	0.02	0.01	0.84

PFAS in Waters Short						
Our Reference		210706-21	210706-22	210706-23	210706-24	210706-25
Your Reference	UNITS	097_tank	097_mointor	097_hose L	097_hose R	097_delivery L
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.01	0.01	0.20	0.13	0.05
8:2 FTS	µg/L	<0.01	0.01	0.08	0.04	0.04
Surrogate $^{13}C_8$ *PFOS*	%	99	105	104	96	101
Surrogate $^{13}C_2$ *PFOA*	%	94	96	94	93	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	89	89	90	95
Extracted ISTD $^{13}C_4$ *PFOS*	%	82	77	82	86	85
Extracted ISTD $^{13}C_4$ *PFOA*	%	88	86	89	88	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	81	80	84	81	87
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	69	75	78	78	72
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
Total Positive PFAS	µg/L	0.01	0.02	0.28	0.18	0.09

PFAS in Waters Short						
Our Reference		210706-26	210706-27	210706-28	210706-29	210706-30
Your Reference	UNITS	097_delivery R	175_tank	175_monitor	175_hose L	175-hose R
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	0.09	<0.01	0.06
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.03	<0.01	<0.01
6:2 FTS	µg/L	0.09	<0.01	0.03	0.02	<0.01
8:2 FTS	µg/L	0.05	<0.01	0.04	0.04	0.1
Surrogate $^{13}C_8$ *PFOS*	%	102	96	106	104	99
Surrogate $^{13}C_2$ *PFOA*	%	96	94	94	97	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	89	91	92	105
Extracted ISTD $^{13}C_4$ *PFOS*	%	84	81	79	83	90
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	92	89	96	65
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	94	94	84	91	70
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	74	73	72	72	80
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	0.09	<0.01	0.06
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	0.12	<0.01	0.06
Total Positive PFAS	µg/L	0.15	<0.01	0.19	0.06	0.15

PFAS in Waters Short						
Our Reference		210706-31	210706-32	210706-33	210706-34	210706-35
Your Reference	UNITS	175_delivery R	175_delivery L	212_delivery	212_hose	1014_hose L
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	0.02	0.02	0.06	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.06	0.07	<0.01	0.01	0.03
8:2 FTS	µg/L	0.02	0.02	<0.01	0.03	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	102	99	99	100	101
Surrogate $^{13}C_2$ *PFOA*	%	90	93	92	92	88
Extracted ISTD $^{18}O_2$ *PFHxS*	%	94	88	89	94	101
Extracted ISTD $^{13}C_4$ *PFOS*	%	81	77	77	77	84
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	92	94	92	99
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	88	81	92	92	91
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	67	70	69	76	78
Total Positive PFHxS & PFOS	µg/L	0.02	0.02	0.02	0.06	<0.01
Total Positive PFOA & PFOS	µg/L	0.02	0.02	0.02	0.06	<0.01
Total Positive PFAS	µg/L	0.10	0.11	0.02	0.09	0.03

PFAS in Waters Short						
Our Reference		210706-36	210706-37	210706-38	210706-39	210706-40
Your Reference	UNITS	1014_hose R	1014_monitor	1014_delivery L	1014_delivery R	1014_tank
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.11	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.02	0.02	0.03	0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	101	106	105	96	117
Surrogate $^{13}C_2$ *PFOA*	%	92	88	89	92	95
Extracted ISTD $^{18}O_2$ *PFHxS*	%	98	96	88	92	91
Extracted ISTD $^{13}C_4$ *PFOS*	%	81	78	79	83	72
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	99	95	91	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	94	96	78	89	80
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	69	83	60	66	64
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.11	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.02	0.13	0.03	0.01	<0.01

PFAS in Waters Short						
Our Reference		210706-41	210706-42	210706-43	210706-44	210706-45
Your Reference	UNITS	151_hose	151_delivery	193_hose L	193_hose R	193_delivery L
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.12	<0.01	<0.01	0.21	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.28	<0.01	0.06	1.9	0.02
Perfluorooctanoic acid PFOA	µg/L	0.02	<0.01	0.01	0.07	<0.01
6:2 FTS	µg/L	<0.01	<0.01	0.05	0.03	0.03
8:2 FTS	µg/L	<0.01	<0.01	0.04	0.03	0.02
Surrogate $^{13}C_8$ *PFOS*	%	102	103	104	101	94
Surrogate $^{13}C_2$ *PFOA*	%	97	91	88	91	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	98	90	90	103	86
Extracted ISTD $^{13}C_4$ *PFOS*	%	82	78	76	79	82
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	89	96	98	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	111	80	95	122	79
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	78	69	71	82	66
Total Positive PFHxS & PFOS	µg/L	0.40	<0.01	0.06	2.1	0.02
Total Positive PFOA & PFOS	µg/L	0.31	<0.01	0.07	1.9	0.02
Total Positive PFAS	µg/L	0.42	<0.01	0.16	2.2	0.07

PFAS in Waters Short						
Our Reference		210706-46	210706-47	210706-48	210706-49	210706-50
Your Reference	UNITS	193_delivery R	193_tank	191_delivery L	191_delivery R	191_hose L
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	0.09	0.04	0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	<0.01	1.8	0.76	0.21
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.06	0.03	0.01
6:2 FTS	µg/L	0.03	<0.01	0.02	<0.01	<0.01
8:2 FTS	µg/L	0.03	<0.01	0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	101	99	107	101	105
Surrogate $^{13}C_2$ *PFOA*	%	89	93	90	92	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	89	91	85	90	106
Extracted ISTD $^{13}C_4$ *PFOS*	%	76	79	73	78	80
Extracted ISTD $^{13}C_4$ *PFOA*	%	92	94	91	94	82
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	81	91	81	85	168
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	71	73	64	66	72
Total Positive PFHxS & PFOS	µg/L	0.02	<0.01	1.9	0.80	0.22
Total Positive PFOA & PFOS	µg/L	0.02	<0.01	1.9	0.79	0.22
Total Positive PFAS	µg/L	0.07	<0.01	2.0	0.83	0.23

PFAS in Waters Short						
Our Reference		210706-51	210706-52	210706-53	210706-54	210706-55
Your Reference	UNITS	191_hose R	191_tank	191_monitor	K178_delivery L	K178_delivery R
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.16	0.04	0.09	0.34	0.05
Perfluorooctanoic acid PFOA	µg/L	0.01	<0.01	<0.01	0.05	0.03
6:2 FTS	µg/L	0.03	<0.01	<0.01	0.31	0.22
8:2 FTS	µg/L	0.02	<0.01	<0.01	0.24	0.20
Surrogate $^{13}C_8$ *PFOS*	%	97	114	104	110	95
Surrogate $^{13}C_2$ *PFOA*	%	91	91	91	98	90
Extracted ISTD $^{18}O_2$ *PFHxS*	%	87	90	90	90	85
Extracted ISTD $^{13}C_4$ *PFOS*	%	79	75	76	73	79
Extracted ISTD $^{13}C_4$ *PFOA*	%	91	91	92	84	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	118	81	85	75	81
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	74	74	60	66	68
Total Positive PFHxS & PFOS	µg/L	0.17	0.04	0.09	0.34	0.05
Total Positive PFOA & PFOS	µg/L	0.17	0.04	0.09	0.39	0.08
Total Positive PFAS	µg/L	0.23	0.04	0.09	0.94	0.49

PFAS in Waters Short						
Our Reference		210706-56	210706-57	210706-58	210706-59	210706-60
Your Reference	UNITS	K178_tank	K178_mointor	K178_hose L	K178_hose R	206_delivery
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.02	0.01	<0.01	0.01	0.16
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.04	<0.01
6:2 FTS	µg/L	0.06	0.05	0.05	0.19	0.02
8:2 FTS	µg/L	0.08	0.07	0.13	0.39	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	111	102	111	101	100
Surrogate $^{13}C_2$ *PFOA*	%	97	94	89	94	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	88	90	95	92	90
Extracted ISTD $^{13}C_4$ *PFOS*	%	78	81	79	79	83
Extracted ISTD $^{13}C_4$ *PFOA*	%	89	87	91	91	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	82	83	88	99	88
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	77	72	81	76	73
Total Positive PFHxS & PFOS	µg/L	0.02	0.01	<0.01	0.01	0.17
Total Positive PFOA & PFOS	µg/L	0.02	0.01	<0.01	0.05	0.16
Total Positive PFAS	µg/L	0.16	0.14	0.18	0.63	0.19

PFAS in Waters Short						
Our Reference		210706-61	210706-62	210706-63	210706-64	210706-65
Your Reference	UNITS	206_hose	179_hose	179_delivery	178_hose	178_tank
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.13	0.02	0.05	0.04	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.32	0.16	0.16	<0.01
8:2 FTS	µg/L	<0.01	0.07	0.05	0.04	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	102	92	95	97	100
Surrogate $^{13}C_2$ *PFOA*	%	86	90	91	83	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	87	90	95	92	89
Extracted ISTD $^{13}C_4$ *PFOS*	%	83	85	82	88	78
Extracted ISTD $^{13}C_4$ *PFOA*	%	91	87	89	86	89
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	83	147	81	165	84
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	77	74	74	91	74
Total Positive PFHxS & PFOS	µg/L	0.14	0.02	0.05	0.04	<0.01
Total Positive PFOA & PFOS	µg/L	0.13	0.02	0.06	0.04	<0.01
Total Positive PFAS	µg/L	0.14	0.41	0.28	0.24	<0.01

PFAS in Waters Short						
Our Reference		210706-66	210706-67	210706-68	210706-69	210706-70
Your Reference	UNITS	178_monitor	178_delivery	172_tank	172_monitor	172_delivery L
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	0.06	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.18	0.05	<0.01	4.6	0.06
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	<0.01	0.04	<0.01
6:2 FTS	µg/L	0.02	0.19	<0.01	0.07	<0.01
8:2 FTS	µg/L	0.02	0.07	<0.01	0.14	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	110	101	95	107	102
Surrogate $^{13}C_2$ *PFOA*	%	87	85	89	86	85
Extracted ISTD $^{18}O_2$ *PFHxS*	%	95	92	90	86	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	77	82	88	76	77
Extracted ISTD $^{13}C_4$ *PFOA*	%	91	90	89	93	93
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	80	85	83	90	85
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	74	69	75	73	73
Total Positive PFHxS & PFOS	µg/L	0.18	0.05	<0.01	4.7	0.06
Total Positive PFOA & PFOS	µg/L	0.18	0.06	<0.01	4.7	0.06
Total Positive PFAS	µg/L	0.21	0.33	<0.01	4.9	0.06

PFAS in Waters Short						
Our Reference		210706-71	210706-72	210706-73	210706-74	210706-75
Your Reference	UNITS	172_delivery R	172_hose L	172_hose R	201_hose L	201_hose R
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.01	<0.01	0.03	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.05	0.12	0.13	0.02	0.25
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.05	0.02	<0.01	<0.01
8:2 FTS	µg/L	<0.01	0.22	0.02	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	101	91	95	101	114
Surrogate $^{13}C_2$ *PFOA*	%	87	91	91	87	88
Extracted ISTD $^{18}O_2$ *PFHxS*	%	91	91	90	91	90
Extracted ISTD $^{13}C_4$ *PFOS*	%	82	84	81	82	73
Extracted ISTD $^{13}C_4$ *PFOA*	%	93	91	89	90	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	80	99	84	91	91
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	77	84	77	74	78
Total Positive PFHxS & PFOS	µg/L	0.05	0.14	0.13	0.05	0.25
Total Positive PFOA & PFOS	µg/L	0.05	0.12	0.13	0.02	0.25
Total Positive PFAS	µg/L	0.05	0.40	0.18	0.05	0.25

PFAS in Waters Short						
Our Reference		210706-76	210706-77	210706-78	210706-79	210706-80
Your Reference	UNITS	201_delivery L	201_delivery R	201_tank	196_hose L	196_hose R
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Date analysed	-	08/02/2019	08/02/2019	08/02/2019	08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	0.01	0.81
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	0.12
Surrogate $^{13}C_8$ *PFOS*	%	96	100	102	105	99
Surrogate $^{13}C_2$ *PFOA*	%	91	92	88	93	90
Extracted ISTD $^{18}O_2$ *PFHxS*	%	93	88	94	83	89
Extracted ISTD $^{13}C_4$ *PFOS*	%	84	82	87	79	93
Extracted ISTD $^{13}C_4$ *PFOA*	%	89	89	95	85	79
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	88	84	83	76	173
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	74	74	76	68	90
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	0.01	0.94

PFAS in Waters Short						
Our Reference		210706-81	210706-82	210706-83	210706-84	210706-85
Your Reference	UNITS	196_tank	196_delivery L	196_delivery R	205_hose	205_delivery
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	08/02/2019	08/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	08/02/2019	08/02/2019	11/02/2019	11/02/2019	11/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	0.03	0.03
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	0.27	0.20
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	100	107	95	97	107
Surrogate $^{13}C_2$ *PFOA*	%	90	88	82	83	82
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	90	107	101	110
Extracted ISTD $^{13}C_4$ *PFOS*	%	79	76	86	81	79
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	93	97	96	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	77	82	99	137	80
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	71	73	75	68	72
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	0.30	0.23
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	0.27	0.20
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	0.30	0.23

PFAS in Waters Short						
Our Reference		210706-86	210706-87	210706-88	210706-89	210706-90
Your Reference	UNITS	205_tank	980_monitor	980_delivery L	980_delivery R	980_tank
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.11	0.03	0.04	0.03	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	0.02	0.03	0.03	<0.01
8:2 FTS	µg/L	<0.01	<0.01	0.01	0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	94	98	95	98	104
Surrogate $^{13}C_2$ *PFOA*	%	80	85	82	77	72
Extracted ISTD $^{18}O_2$ *PFHxS*	%	102	96	98	101	94
Extracted ISTD $^{13}C_4$ *PFOS*	%	84	78	83	82	79
Extracted ISTD $^{13}C_4$ *PFOA*	%	95	90	93	93	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	88	82	83	86	81
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	71	66	70	66	75
Total Positive PFHxS & PFOS	µg/L	0.12	0.03	0.04	0.03	<0.01
Total Positive PFOA & PFOS	µg/L	0.11	0.03	0.04	0.03	<0.01
Total Positive PFAS	µg/L	0.12	0.05	0.09	0.08	<0.01

PFAS in Waters Short						
Our Reference		210706-91	210706-92	210706-93	210706-94	210706-95
Your Reference	UNITS	980_hose L	980_hose R	1003_tank	1003_monitor	1003_hose L
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.06	0.05	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.02	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.15	0.18	0.01	0.02	0.04
8:2 FTS	µg/L	0.21	0.08	0.02	0.02	0.06
Surrogate $^{13}C_8$ *PFOS*	%	96	98	98	94	107
Surrogate $^{13}C_2$ *PFOA*	%	78	76	76	77	73
Extracted ISTD $^{18}O_2$ *PFHxS*	%	95	120	91	100	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	81	88	79	81	77
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	90	90	96	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	116	164	81	86	83
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	74	76	70	70	73
Total Positive PFHxS & PFOS	µg/L	0.06	0.06	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	0.06	0.07	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	0.43	0.35	0.03	0.03	0.1

PFAS in Waters Short						
Our Reference		210706-96	210706-97	210706-98	210706-117	210706-118
Your Reference	UNITS	1003_hose R	1003_delivery L	1003_delivery R	QCRW_1 tank	QCRW_1 monitor
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	<0.01	<0.01	0.02	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.04	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.08	0.24	0.06	<0.01	<0.01
8:2 FTS	µg/L	0.07	0.32	0.11	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	99	101	105	95	99
Surrogate $^{13}C_2$ *PFOA*	%	76	80	77	75	78
Extracted ISTD $^{18}O_2$ *PFHxS*	%	91	88	94	92	86
Extracted ISTD $^{13}C_4$ *PFOS*	%	80	73	79	81	82
Extracted ISTD $^{13}C_4$ *PFOA*	%	91	86	88	91	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	84	73	74	83	83
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	73	61	93	71	67
Total Positive PFHxS & PFOS	µg/L	0.01	<0.01	<0.01	0.02	<0.01
Total Positive PFOA & PFOS	µg/L	0.01	0.04	<0.01	0.02	<0.01
Total Positive PFAS	µg/L	0.16	0.60	0.17	0.02	<0.01

PFAS in Waters Short						
Our Reference		210706-119	210706-120	210706-121	210706-122	210706-123
Your Reference	UNITS	QCRW_1 delivery L	QCRW_1 delivery R	QCRW_1 hose L	QCRW_1 hose R	QCRW_3 tank
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Date analysed	-	11/02/2019	11/02/2019	11/02/2019	11/02/2019	11/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.05	0.05	0.02	0.02	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	0.41	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	0.13	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	108	106	100	95	97
Surrogate $^{13}C_2$ *PFOA*	%	68	65	65	67	66
Extracted ISTD $^{18}O_2$ *PFHxS*	%	75	71	71	81	77
Extracted ISTD $^{13}C_4$ *PFOS*	%	78	82	83	85	82
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	95	95	96	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	79	79	83	85	81
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	67	68	75	78	62
Total Positive PFHxS & PFOS	µg/L	0.05	0.05	0.02	0.03	<0.01
Total Positive PFOA & PFOS	µg/L	0.05	0.05	0.02	0.03	<0.01
Total Positive PFAS	µg/L	0.05	0.05	0.02	0.59	<0.01

PFAS in Waters Short						
Our Reference		210706-124	210706-125	210706-126	210706-127	210706-128
Your Reference	UNITS	QCRW_3 monitor	QCRW_3 hose L	QCRW_3 hose R	QCRW_3 delivery L	QCRW_3 delivery R
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/02/2019	12/02/2019	12/02/2019	12/02/2019	12/02/2019
Date analysed	-	11/02/2019	12/02/2019	12/02/2019	12/02/2019	12/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	0.1	<0.01	0.07	0.02	0.02
Perfluorooctanoic acid PFOA	µg/L	0.03	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	0.03	0.02	<0.01	0.07	0.06
8:2 FTS	µg/L	0.05	0.02	0.13	0.03	0.02
Surrogate $^{13}C_8$ *PFOS*	%	101	105	101	101	102
Surrogate $^{13}C_2$ *PFOA*	%	69	105	103	98	103
Extracted ISTD $^{18}O_2$ *PFHxS*	%	75	123	150	124	119
Extracted ISTD $^{13}C_4$ *PFOS*	%	82	88	105	92	89
Extracted ISTD $^{13}C_4$ *PFOA*	%	96	104	65	101	103
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	75	104	72	104	101
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	63	87	113	82	84
Total Positive PFHxS & PFOS	µg/L	0.1	<0.01	0.07	0.02	0.02
Total Positive PFOA & PFOS	µg/L	0.13	<0.01	0.07	0.02	0.02
Total Positive PFAS	µg/L	0.21	0.04	0.20	0.12	0.10

PFAS in Waters Short					
Our Reference		210706-131	210706-132	210706-133	210706-134
Your Reference	UNITS	RB_RW1	RB_RW2	RB_RW3	RB_RW4
Type of sample		Water	Water	Water	Water
Date prepared	-	12/02/2019	12/02/2019	12/02/2019	12/02/2019
Date analysed	-	12/02/2019	12/02/2019	12/02/2019	12/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	88	93	100	95
Surrogate $^{13}C_2$ *PFOA*	%	107	112	104	112
Extracted ISTD $^{18}O_2$ *PFHxS*	%	123	127	126	127
Extracted ISTD $^{13}C_4$ *PFOS*	%	100	104	98	93
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	110	104	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	97	105	97	107
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	96	89	100	93
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	210706-100
Date prepared	-			08/02/2019	99	08/02/2019	08/02/2019		08/02/2019	08/02/2019
Date analysed	-			08/02/2019	99	08/02/2019	08/02/2019		08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	<0.1	99	4.5	3.6	22	97	104
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1	99	90	74	20	94	102
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1	99	<1	<1	0	99	94
6:2 FTS	µg/kg	0.1	Org-035	<0.1	99	2.1	1.6	27	96	96
8:2 FTS	µg/kg	0.1	Org-035	<0.1	99	2.1	2.1	0	97	89
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	101	99	86	105	20	101	107
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	89	99	99	95	4	93	89
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	95	99	107	107	0	95	85
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	90	99	87	90	3	84	70
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	97	99	90	96	6	90	68
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	87	99	84	89	6	80	72
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	88	99	69	65	6	79	48

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	111	08/02/2019	08/02/2019		[NT]	[NT]
Date analysed	-			[NT]	111	08/02/2019	08/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	[NT]	111	1.8	2.1	15	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	[NT]	111	80	86	7	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	[NT]	111	1.5	1.6	6	[NT]	[NT]
6:2 FTS	µg/kg	0.1	Org-035	[NT]	111	49	50	2	[NT]	[NT]
8:2 FTS	µg/kg	0.1	Org-035	[NT]	111	47	62	28	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	111	103	96	7	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	111	95	95	0	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	111	96	101	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	111	90	101	12	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	111	73	84	14	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	111	85	90	6	[NT]	[NT]

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	111	74	70	6	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	210706-2
Date prepared	-			07/02/2019	1	07/02/2019	07/02/2019		07/02/2019	07/02/2019
Date analysed	-			07/02/2019	1	07/02/2019	07/02/2019		07/02/2019	07/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	72	75
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	96	95
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	94	98
6:2 FTS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	98	96
8:2 FTS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	94	97
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	100	1	95	99	4	99	100
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	98	1	112	103	8	102	102
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	105	1	104	104	0	102	98
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	101	1	96	95	1	103	96
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	105	1	100	106	6	103	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	99	1	92	99	7	90	95
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	89	1	84	84	0	83	82

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	210706-22
Date prepared	-			[NT]	11	07/02/2019	07/02/2019		08/02/2019	08/02/2019
Date analysed	-			[NT]	11	07/02/2019	07/02/2019		08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	11	<0.01	<0.01	0	102	102
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	11	0.04	0.04	0	100	94
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	11	<0.01	<0.01	0	104	103
6:2 FTS	µg/L	0.01	Org-035	[NT]	11	<0.01	<0.01	0	96	92
8:2 FTS	µg/L	0.01	Org-035	[NT]	11	<0.01	<0.01	0	101	98
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	11	88	100	13	103	102
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	11	104	101	3	93	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	11	98	96	2	87	85
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	11	94	89	5	77	83
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	11	96	93	3	91	88
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	11	92	92	0	79	77

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	210706-22
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	11	83	78	6	69	75

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	210706-42
Date prepared	-			[NT]	21	08/02/2019	08/02/2019		08/02/2019	08/02/2019
Date analysed	-			[NT]	21	08/02/2019	08/02/2019		08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	21	<0.01	<0.01	0	105	109
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	21	<0.01	<0.01	0	108	100
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	21	<0.01	<0.01	0	102	107
6:2 FTS	µg/L	0.01	Org-035	[NT]	21	0.01	0.01	0	100	106
8:2 FTS	µg/L	0.01	Org-035	[NT]	21	<0.01	<0.01	0	101	104
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	21	99	101	2	105	98
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	21	94	95	1	87	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	21	90	90	0	89	85
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	21	82	79	4	77	76
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	21	88	85	3	88	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	21	81	82	1	74	75
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	21	69	74	7	69	66

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W4	210706-62
Date prepared	-			[NT]	31	08/02/2019	08/02/2019		08/02/2019	08/02/2019
Date analysed	-			[NT]	31	08/02/2019	08/02/2019		08/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	31	<0.01	<0.01	0	109	108
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	31	0.02	0.02	0	103	102
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	31	<0.01	<0.01	0	111	101
6:2 FTS	µg/L	0.01	Org-035	[NT]	31	0.06	0.05	18	96	99
8:2 FTS	µg/L	0.01	Org-035	[NT]	31	0.02	0.02	0	100	103
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	31	102	100	2	99	103
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	31	90	98	9	100	83
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	31	94	93	1	82	86
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	31	81	79	2	78	80
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	31	103	95	8	81	84
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	31	88	90	2	76	142
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	31	67	68	1	73	73

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	210706-82
Date prepared	-			[NT]	41	08/02/2019	08/02/2019		11/02/2019	08/02/2019
Date analysed	-			[NT]	41	08/02/2019	08/02/2019		11/02/2019	08/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	41	0.12	0.12	0	109	110
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	41	0.28	0.27	4	93	100
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	41	0.02	0.03	40	98	108
6:2 FTS	µg/L	0.01	Org-035	[NT]	41	<0.01	<0.01	0	100	98
8:2 FTS	µg/L	0.01	Org-035	[NT]	41	<0.01	<0.01	0	114	108
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	41	102	100	2	97	96
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	41	97	95	2	90	92
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	41	98	97	1	118	90
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	41	82	81	1	90	83
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	41	90	91	1	100	87
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	41	111	111	0	80	79

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	210706-82
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	41	78	84	7	68	70

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W6	210706-122
Date prepared	-			[NT]	51	08/02/2019	08/02/2019		11/02/2019	11/02/2019
Date analysed	-			[NT]	51	08/02/2019	08/02/2019		11/02/2019	11/02/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	51	0.01	0.01	0	110	108
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	51	0.16	0.16	0	98	91
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	51	0.01	0.01	0	87	81
6:2 FTS	µg/L	0.01	Org-035	[NT]	51	0.03	0.03	0	89	85
8:2 FTS	µg/L	0.01	Org-035	[NT]	51	0.02	0.02	0	101	89
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	51	97	102	5	100	94
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	51	91	93	2	70	67
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	51	87	89	2	74	78
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	51	79	74	7	80	87
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	51	91	88	3	89	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	51	118	115	3	70	86
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	51	74	75	1	64	75

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	61	08/02/2019	08/02/2019		[NT]	[NT]
Date analysed	-			[NT]	61	08/02/2019	08/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	61	0.01	0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	61	0.13	0.13	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	61	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	61	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	61	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	61	102	101	1	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	61	86	89	3	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	61	87	90	3	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	61	83	79	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	61	91	91	0	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	61	83	83	0	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	61	77	75	3	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	71	08/02/2019	08/02/2019		[NT]	[NT]
Date analysed	-			[NT]	71	08/02/2019	08/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	71	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	71	0.05	0.05	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	71	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	71	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	71	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	71	101	105	4	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	71	87	89	2	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	71	91	88	3	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	71	82	84	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	71	93	94	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	71	80	87	8	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	71	77	74	4	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	81	08/02/2019	08/02/2019		[NT]	[NT]
Date analysed	-			[NT]	81	08/02/2019	08/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	81	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	81	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	81	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	81	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	81	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	81	100	102	2	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	81	90	94	4	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	81	90	95	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	81	79	82	4	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	81	90	91	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	81	77	86	11	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	81	71	81	13	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	91	11/02/2019	11/02/2019		[NT]	[NT]
Date analysed	-			[NT]	91	11/02/2019	11/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	91	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	91	0.06	0.06	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	91	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	91	0.15	0.15	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	91	0.21	0.20	5	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	91	96	97	1	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	91	78	75	4	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	91	95	95	0	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	91	81	83	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	91	90	91	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	91	116	117	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	91	74	78	5	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	121	11/02/2019	11/02/2019		[NT]	[NT]
Date analysed	-			[NT]	121	11/02/2019	11/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	121	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	121	0.02	0.02	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	121	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	121	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	121	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	121	100	98	2	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	121	65	69	6	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	121	71	82	14	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	121	83	83	0	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	121	95	96	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	121	83	85	2	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	121	75	74	1	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	131	12/02/2019	12/02/2019		[NT]	[NT]
Date analysed	-			[NT]	131	12/02/2019	12/02/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	[NT]	131	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	[NT]	131	<0.01	<0.01	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	[NT]	131	<0.01	<0.01	0	[NT]	[NT]
6:2 FTS	µg/L	0.01	Org-035	[NT]	131	<0.01	<0.01	0	[NT]	[NT]
8:2 FTS	µg/L	0.01	Org-035	[NT]	131	<0.01	<0.01	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	131	88	98	11	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	131	107	110	3	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	131	123	120	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	131	100	94	6	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	131	103	99	4	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	131	97	99	2	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	[NT]	131	96	93	3	[NT]	[NT]

Result Definitions

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

Quality Control Definitions

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

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

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; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

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).

PFAS_S_SHORT: PQLs raised for 210706-99, 103, 129 due to matrix interference.

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
Telephone: 618 8111 6600 Facsimile: 618 8111 6699
Email: admail@ghd.com.au

GHD Mt Gambier
2A Helen St, Mt Gambier SA 5290
Telephone: 618 8721 0600 Facsimile: 618 8721 0699

GHD Roxby Downs
1/14 Tutop St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement:
X STANDARD
☐ NON-STANDARD _____

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	Jacinta Kracman	Alex Stenta		
Project		Date/Time:	Date/Time:	Date/Time:	Date/Time:
State-wide MFS PFAS & Largs North		27/03/2019	27/03/2019		

GHD Project Manager	GHD Contact
Dilara Valiff	Jacinta Kracman
	jacinta.kracman@gmail.com
Email Reports to: jacinta.kracman@ghd.com joel.kirk@ghd.com Dilara.Valiff@ghd.com	Quote

SEND TO:

☐ **ALS Laboratories**
2-4 Westall Rd, SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact:

☐ **MGT LabMark**
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact:

☐ **SGS**
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact:

☐ **BUREAU VERTIAS AMDEL**
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

	Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar, B: Bag, V: Vial, G: Glass bottle; P: Plastic bottle	Analyses Required: PFAS short suite	Remarks
1	1703_M	27/03/2019		W	P	x	
2	1703_WT	27/03/2019		W	P	x	
3	1703_H_D	27/03/2019		W	P	x	
4	1703_H_P	27/03/2019		W	P	x	
5	1703_WD_D	27/03/2019		W	P	x	
6	1703_WD_P	27/03/2019		W	P	x	
7	GLEN_OIL	27/03/2019		W	P	x	
8	GLEN_R01	27/03/2019		W	P	x	
9	GLEN_1	27/03/2019		S	P	x	
10	GLEN_2	27/03/2019		S	P	x	
11	GLEN_3	27/03/2019		S	P	x	
12	GLEN_CITRUS	27/03/2019		B	P	x	
13	GLEN_TOMATO	27/03/2019		B	P	x	
14	MULCH_1	27/03/2019		S	P	x	
15	MULCH_2	27/03/2019		S	P		on hold
16	MULCH_3	27/03/2019		S	P	x	
17	MULCH_4	27/03/2019		S	P	x	
18	MULCH_5	27/03/2019		S	P		on hold
19	MULCH_6	27/03/2019		S	P		on hold
20	MULCH_7	27/03/2019		S	P		on hold

Remarks: keep all samples

ENVIROLAB GROUP

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 214472.
Date Received: 27/3
Time Received: 1:27
Received by: AZ
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

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

CERTIFICATE OF ANALYSIS 214472

Client Details

Client	GHD Pty Ltd
Attention	Jacinta Kracman, Dilara Valiff
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080**
Number of Samples	8 Water, 3 Soil, 2 Fruit, 7 Mulch
Date samples received	28/03/2019
Date completed instructions received	28/03/2019

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	04/04/2019
Date of Issue	30/05/2019
Reissue Details	This report replaces R00 created on 03/04/2019 due to: Registration error - Date Sampled entered incorrectly

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

Results Approved By
Nancy Zhang, Laboratory Manager, Sydney
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By

Nancy Zhang, Laboratory Manager

PFAS in Waters Short						
Our Reference		214472-1	214472-2	214472-3	214472-4	214472-5
Your Reference	UNITS	1703_M	1703_WT	1703_H_D	1703_H_P	1703_WD_D
Date Sampled		27/03/2019	27/03/2019	27/03/2019	27/03/2019	27/03/2019
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019	29/03/2019
Date analysed	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019	29/03/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	90	105	111	100	100
Surrogate $^{13}C_2$ *PFOA*	%	97	98	90	97	92
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	96	99	96	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	110	105	97	101	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	102	107	104	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	134	121	132	134	112
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	99	93	98	100	83
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01

PFAS in Waters Short				
Our Reference		214472-6	214472-7	214472-8
Your Reference	UNITS	1703_WD_P	GLEN_OIL	GLEN_01
Date Sampled		27/03/2019	27/03/2019	27/03/2019
Type of sample		Water	Water	Water
Date prepared	-	29/03/2019	29/03/2019	29/03/2019
Date analysed	-	29/03/2019	29/03/2019	29/03/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	0.06	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	0.16	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	0.01	<0.01
6:2 FTS	µg/L	<0.01	0.73	<0.01
8:2 FTS	µg/L	<0.01	0.11	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	95	102	102
Surrogate $^{13}C_2$ *PFOA*	%	98	92	99
Extracted ISTD $^{18}O_2$ *PFHxS*	%	91	98	94
Extracted ISTD $^{13}C_4$ *PFOS*	%	103	109	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	92	96
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	119	167	113
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	83	143	85
Total Positive PFHxS & PFOS	µg/L	<0.01	0.22	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01	0.17	<0.01
Total Positive PFAS	µg/L	<0.01	1.1	<0.01

PFAS in Biota Extended Suite			
Our Reference		214472-12	214472-13
Your Reference	UNITS	GLEN_CITRUS	GLEN_TOMATO
Date Sampled		27/03/2019	27/03/2019
Type of sample		Fruit	Fruit
Date prepared	-	02/04/2019	02/04/2019
Date analysed	-	03/04/2019	03/04/2019
Perfluorobutanesulfonic acid	µg/kg	<1	<1
Perfluoropentanesulfonic acid	µg/kg	<1	<1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<1	<1
Perfluoroheptanesulfonic acid	µg/kg	<1	<1
Perfluorooctanesulfonic acid PFOS	µg/kg	<1	<1
Perfluorodecanesulfonic acid	µg/kg	<1	<1
Perfluorobutanoic acid	µg/kg	<2	<2
Perfluoropentanoic acid	µg/kg	<2	<2
Perfluorohexanoic acid	µg/kg	<1	<1
Perfluoroheptanoic acid	µg/kg	<1	<1
Perfluorooctanoic acid PFOA	µg/kg	<1	<1
Perfluorononanoic acid	µg/kg	<1	<1
Perfluorodecanoic acid	µg/kg	<2	<2
Perfluoroundecanoic acid	µg/kg	<2	<2
Perfluorododecanoic acid	µg/kg	<2	<2
Perfluorotridecanoic acid	µg/kg	<2	<2
Perfluorotetradecanoic acid	µg/kg	<5	<5
4:2 FTS	µg/kg	<1	<1
6:2 FTS	µg/kg	<1	<1
8:2 FTS	µg/kg	<1	<1
10:2 FTS	µg/kg	<1	<1
Perfluorooctane sulfonamide	µg/kg	<5	<5
N-Methyl perfluorooctane sulfonamide	µg/kg	<5	<5
N-Ethyl perfluorooctanesulfon amide	µg/kg	<5	<5
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<10	<10
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<50	<50
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<2	<2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<2	<2
Surrogate $^{13}C_8$ *PFOS*	%	101	96
Surrogate $^{13}C_2$ *PFOA*	%	96	99
Extracted ISTD $^{13}C_3$ *PFBS*	%	71	83
Extracted ISTD $^{18}O_2$ *PFHxS*	%	87	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	92	96
Extracted ISTD $^{13}C_4$ *PFBA*	%	77	96

PFAS in Biota Extended Suite			
Our Reference	UNITS	214472-12	214472-13
Your Reference		GLEN_CITRUS	GLEN_TOMATO
Date Sampled		27/03/2019	27/03/2019
Type of sample		Fruit	Fruit
Extracted ISTD $^{13}C_3$ *PFPeA*	%	53	84
Extracted ISTD $^{13}C_2$ *PFHxA*	%	79	86
Extracted ISTD $^{13}C_4$ *PFHpA*	%	92	96
Extracted ISTD $^{13}C_4$ *PFOA*	%	100	98
Extracted ISTD $^{13}C_5$ *PFNA*	%	108	110
Extracted ISTD $^{13}C_2$ *PFDA*	%	115	96
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	113	109
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	94	89
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	85	81
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	109	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	104	111
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	118	94
Extracted ISTD $^{13}C_8$ *FOSA*	%	92	91
Extracted ISTD d_3 *N MeFOSA*	%	73	62
Extracted ISTD d_5 *N EtFOSA*	%	70	55
Extracted ISTD d_7 *N MeFOSE*	%	92	89
Extracted ISTD d_9 *N EtFOSE*	%	91	82
Extracted ISTD d_3 *N MeFOSAA*	%	93	99
Extracted ISTD d_5 *N EtFOSAA*	%	85	109
Total Positive PFHxS & PFOS	µg/kg	<1	<1
Total Positive PFOS & PFOA	µg/kg	<1	<1
Total Positive PFAS	µg/kg	<1	<1

PFAs in Soils and Mulches Short						
Our Reference		214472-9	214472-10	214472-11	214472-14	214472-16
Your Reference	UNITS	GLEN_1	GLEN_2	GLEN_3	MULCH_1	MULCH_3
Date Sampled		27/03/2019	27/03/2019	27/03/2019	27/03/2019	27/03/2019
Type of sample		Soil	Soil	Soil	Mulch	Mulch
Date prepared	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019	29/03/2019
Date analysed	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019	29/03/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	0.1	0.3	7.3	<0.5
Perfluorooctanesulfonic acid PFOS	µg/kg	1.1	3.2	5.9	89	0.6
Perfluorooctanoic acid PFOA	µg/kg	<0.1	1	<0.1	0.5	<0.5
6:2 FTS	µg/kg	<0.1	<0.2	<0.1	<0.5	<0.5
8:2 FTS	µg/kg	<0.1	<0.2	<0.1	<0.5	<0.5
Surrogate $^{13}C_8$ *PFOS*	%	102	88	89	90	98
Surrogate $^{13}C_2$ *PFOA*	%	95	100	90	90	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%	84	75	78	82	79
Extracted ISTD $^{13}C_4$ *PFOS*	%	87	34	83	83	80
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	91	55	82	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	139	147	61	#	#
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	110	92	48	158	160
Total Positive PFHxS & PFOS	µg/kg	1.1	3.3	6.2	96	0.6
Total Positive PFOS & PFOA	µg/kg	1.1	4.2	5.9	89	0.6
Total Positive PFAS	µg/kg	1.1	4.3	6.2	96	0.6

PFAs in Soils and Mulches Short		
Our Reference		214472-17
Your Reference	UNITS	MULCH_4
Date Sampled		27/03/2019
Type of sample		Mulch
Date prepared	-	29/03/2019
Date analysed	-	29/03/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	15
Perfluorooctanesulfonic acid PFOS	µg/kg	110
Perfluorooctanoic acid PFOA	µg/kg	<0.5
6:2 FTS	µg/kg	<0.5
8:2 FTS	µg/kg	<0.5
Surrogate $^{13}C_8$ *PFOS*	%	101
Surrogate $^{13}C_2$ *PFOA*	%	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	81
Extracted ISTD $^{13}C_4$ *PFOS*	%	85
Extracted ISTD $^{13}C_4$ *PFOA*	%	66
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	110
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	70
Total Positive PFHxS & PFOS	µg/kg	130
Total Positive PFOS & PFOA	µg/kg	110
Total Positive PFAS	µg/kg	130

Moisture						
Our Reference		214472-9	214472-10	214472-11	214472-14	214472-16
Your Reference	UNITS	GLEN_1	GLEN_2	GLEN_3	MULCH_1	MULCH_3
Date Sampled		27/03/2019	27/03/2019	27/03/2019	27/03/2019	27/03/2019
Type of sample		Soil	Soil	Soil	Mulch	Mulch
Date prepared	-	29/03/2019	29/03/2019	29/03/2019	29/03/2019	29/03/2019
Date analysed	-	01/04/2019	01/04/2019	01/04/2019	01/04/2019	01/04/2019
Moisture	%	12	36	13	<0.1	6.7

Moisture		
Our Reference		214472-17
Your Reference	UNITS	MULCH_4
Date Sampled		27/03/2019
Type of sample		Mulch
Date prepared	-	29/03/2019
Date analysed	-	01/04/2019
Moisture	%	6.3

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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.
Org-035	Biota are homogenised and extracted with basified Methanol followed by SPE and/or Activated Charcoal clean-up, prior to analysis with LC-MS/MS. Samples analysed and reported on an as received basis and are therefore not corrected for moisture content. Preparation details are included in the Comments Section as required. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.1 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).

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	214472-2
Date prepared	-			29/03/2019	1	29/03/2019	29/03/2019		29/03/2019	29/03/2019
Date analysed	-			29/03/2019	1	29/03/2019	29/03/2019		29/03/2019	29/03/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	112	108
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	108	104
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	113	114
6:2 FTS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	111	113
8:2 FTS	µg/L	0.01	Org-035	<0.01	1	<0.01	<0.01	0	125	121
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	98	1	90	104	14	97	100
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	104	1	97	96	1	103	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	92	1	90	96	6	81	84
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	102	1	110	101	9	91	100
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	99	1	103	103	0	89	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	109	1	134	132	2	89	96
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	89	1	99	109	10	67	78

QUALITY CONTROL: PFAS in Biota Extended Suite						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	214472-13
Date prepared	-			02/04/2019	12	02/04/2019	02/04/2019		02/04/2019	02/04/2019
Date analysed	-			03/04/2019	12	03/04/2019	03/04/2019		03/04/2019	03/04/2019
Perfluorobutanesulfonic acid	µg/kg	1	Org-035	<1	12	<1	<1	0	94	96
Perfluoropentanesulfonic acid	µg/kg	1	Org-035	<1	12	<1	<1	0	90	96
Perfluorohexanesulfonic acid - PFHxS	µg/kg	1	Org-035	<1	12	<1	<1	0	94	97
Perfluoroheptanesulfonic acid	µg/kg	1	Org-035	<1	12	<1	<1	0	87	86
Perfluorooctanesulfonic acid PFOS	µg/kg	1	Org-035	<1	12	<1	<1	0	82	77
Perfluorodecanesulfonic acid	µg/kg	1	Org-035	<1	12	<1	<1	0	87	74
Perfluorobutanoic acid	µg/kg	2	Org-035	<2	12	<2	<2	0	94	96
Perfluoropentanoic acid	µg/kg	2	Org-035	<2	12	<2	<2	0	100	98
Perfluorohexanoic acid	µg/kg	1	Org-035	<1	12	<1	<1	0	94	95
Perfluoroheptanoic acid	µg/kg	1	Org-035	<1	12	<1	<1	0	93	93
Perfluorooctanoic acid PFOA	µg/kg	1	Org-035	<1	12	<1	<1	0	97	96
Perfluorononanoic acid	µg/kg	1	Org-035	<1	12	<1	<1	0	88	88
Perfluorodecanoic acid	µg/kg	2	Org-035	<2	12	<2	<2	0	91	90
Perfluoroundecanoic acid	µg/kg	2	Org-035	<2	12	<2	<2	0	95	78
Perfluorododecanoic acid	µg/kg	2	Org-035	<2	12	<2	<2	0	98	96
Perfluorotridecanoic acid	µg/kg	2	Org-035	<2	12	<2	<2	0	115	113
Perfluorotetradecanoic acid	µg/kg	5	Org-035	<5	12	<5	<5	0	89	91
4:2 FTS	µg/kg	1	Org-035	<1	12	<1	<1	0	100	105
6:2 FTS	µg/kg	1	Org-035	<1	12	<1	<1	0	98	94
8:2 FTS	µg/kg	1	Org-035	<1	12	<1	<1	0	101	117
10:2 FTS	µg/kg	1	Org-035	<1	12	<1	<1	0	98	112
Perfluorooctane sulfonamide	µg/kg	5	Org-035	<5	12	<5	<5	0	93	95
N-Methyl perfluorooctane sulfonamide	µg/kg	5	Org-035	<5	12	<5	<5	0	97	95
N-Ethyl perfluorooctanesulfon amide	µg/kg	5	Org-035	<5	12	<5	<5	0	91	94
N-Me perfluorooctanesulfonamid oethanol	µg/kg	10	Org-035	<10	12	<10	<10	0	99	95
N-Et perfluorooctanesulfonamid oethanol	µg/kg	50	Org-035	<50	12	<50	<50	0	95	93
MePerfluorooctanesulf- amid oacetic acid	µg/kg	2	Org-035	<2	12	<2	<2	0	95	99
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	2	Org-035	<2	12	<2	<2	0	92	106
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	106	12	101	102	1	96	96
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	99	12	96	96	0	103	103

QUALITY CONTROL: PFAS in Biota Extended Suite						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	214472-13
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-035	76	12	71	78	9	73	80
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	103	12	87	96	10	95	91
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	94	12	92	94	2	94	92
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-035	94	12	77	81	5	96	97
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-035	84	12	53	71	29	79	84
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-035	91	12	79	81	2	88	87
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-035	100	12	92	93	1	93	89
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	101	12	100	100	0	91	92
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-035	110	12	108	112	4	105	101
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-035	116	12	115	108	6	114	97
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-035	117	12	113	109	4	103	113
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-035	88	12	94	92	2	93	92
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-035	64	12	85	71	18	81	81
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-035	106	12	109	111	2	102	95
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	126	12	104	107	3	112	102
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	99	12	118	114	3	104	79
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-035	93	12	92	92	0	89	91
Extracted ISTD d_3 *N MeFOSA*	%		Org-035	71	12	73	71	3	72	67
Extracted ISTD d_5 *N EtFOSA*	%		Org-035	58	12	70	67	4	66	54
Extracted ISTD d_7 *N MeFOSE*	%		Org-035	88	12	92	97	5	94	97

QUALITY CONTROL: PFAS in Biota Extended Suite						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	214472-13
Extracted ISTD d_9 *N EtFOSE*	%		Org-035	86	12	91	90	1	89	90
Extracted ISTD d_3 *N MeFOSAA*	%		Org-035	101	12	93	98	5	106	86
Extracted ISTD d_5 *N EtFOSAA*	%		Org-035	111	12	85	88	3	122	103

QUALITY CONTROL: PFAs in Soils and Mulches Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			29/03/2019	9	29/03/2019	29/03/2019		29/03/2019	[NT]
Date analysed	-			29/03/2019	9	29/03/2019	29/03/2019		29/03/2019	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	<0.1	9	<0.1	<0.1	0	105	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1	9	1.1	1.1	0	100	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1	9	<0.1	<0.1	0	103	[NT]
6:2 FTS	µg/kg	0.1	Org-035	<0.1	9	<0.1	<0.1	0	97	[NT]
8:2 FTS	µg/kg	0.1	Org-035	<0.1	9	<0.1	<0.1	0	99	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	107	9	102	99	3	98	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	96	9	95	98	3	93	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	86	9	84	86	2	79	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	97	9	87	92	6	94	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	96	9	90	90	0	93	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	114	9	139	130	7	104	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	103	9	110	112	2	96	[NT]

Result Definitions

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

Quality Control Definitions

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

Duplicates: >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; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

PFAS_S_SHORT: PQLs raised for sample 10 due to high moisture content and as for samples 14, 16 and 17 it is due to sample matrix (mulch).

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).

CHAIN OF CUSTODY RECORD

GHD

GHD Adelaide
211 Victoria Square, Adelaide SA 5000
Telephone: 618 8111 6600 Facsimile: 618 8111 6599
Email: admail@ghd.com.au

GHD Mt Gambier
2A Helen St, Mt Gambier SA 5290
Telephone: 618 8721 0800 Facsimile: 618 8721 0899

GHD Roxby Downs
1/14 Tutop St, Roxby Downs SA
Telephone: 618 8671 4000 Facsimile: 618 8671 4099

Turnaround Requirement:
X STANDARD
☐ NON-STANDARD _____

Page ___ of ___

Job Number	GHD Office	Relinquished By:	Received By:	Relinquished By:	Received By:
3319080	Adelaide	Robert Webb	QLS A.Sterta		
Project: MFS PFAS Inv		Date/Time: 25/01/2019	Date/Time: 17/4/19 12p	Date/Time:	Date/Time:

GHD Project Manager	GHD Contact
Julian Howard	Robert Webb
Email Reports to: Robert.Webb2@ghd.com; Julian.Howard@ghd.com	Quote

SEND TO:

☐ ALS Laboratories
2-4 Westall Rd, SPRINGVALE, VIC 3171
Ph: 03 8549 9600
Contact:

☐ MGT LabMark
2-5 Kingston Town Close, OAKLEIGH VIC 3166
Ph: 03 9564 7055
Contact:

☐ SGS
16/33 Maddox St, ALEXANDRIA NSW 2015
Ph: 02 8594 0400
Contact:

☐ BUREAU VERITAS AMDEL
2/35 Cormack Rd, WINGFIELD SA 5013
Ph: 08 8440 7100
Contact:

Sample I.D.	Date	Time	Sample Matrix S: Soil SL: Sludge W: Water A: Air	Container Type J: Jar; B: Bag; V: Vial; G: Glass bottle; P: Plastic bottle	Analyses Required: PFAS short suite	Remarks
MountGambier_SWP 1	14/04/2019		W		X	
QC 2	14/04/2019		W			Please keep on hold

Remarks:

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 215965
Date Received: 18/4/19
Time Received: 10:10
Received by: LN
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: ~~Intact/Broken/None~~

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

CERTIFICATE OF ANALYSIS 215965

Client Details

Client	GHD Pty Ltd
Attention	Julian Howard, Robert Webb
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080**
Number of Samples	2 Water
Date samples received	18/04/2019
Date completed instructions received	18/04/2019

Analysis Details

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

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

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

Report Details

Date results requested by	30/04/2019
Date of Issue	29/04/2019

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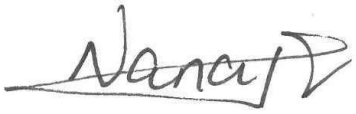
Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By



Nancy Zhang, Laboratory Manager

PFAS in Waters Short			
Our Reference		215965-1	215965-2
Your Reference	UNITS	MountGambier_SWP	QC
Date Sampled		14/04/2019	14/04/2019
Type of sample		Water	Water
Date prepared	-	23/04/2019	23/04/2019
Date analysed	-	23/04/2019	23/04/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.06	0.07
Perfluorooctanesulfonic acid PFOS	µg/L	0.35	0.35
Perfluorooctanoic acid PFOA	µg/L	0.01	0.02
6:2 FTS	µg/L	0.04	0.05
8:2 FTS	µg/L	0.02	0.04
Surrogate $^{13}C_8$ *PFOS*	%	98	108
Surrogate $^{13}C_2$ *PFOA*	%	113	113
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	86
Extracted ISTD $^{13}C_4$ *PFOS*	%	98	94
Extracted ISTD $^{13}C_4$ *PFOA*	%	98	94
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	128	110
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	117	97
Total Positive PFHxS & PFOS	µg/L	0.41	0.42
Total Positive PFOA & PFOS	µg/L	0.36	0.37
Total Positive PFAS	µg/L	0.50	0.53

Method ID	Methodology Summary
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			23/04/2019	1	23/04/2019	23/04/2019		23/04/2019	[NT]
Date analysed	-			23/04/2019	1	23/04/2019	23/04/2019		23/04/2019	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	1	0.06	0.07	15	108	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	1	0.35	0.33	6	98	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	1	0.01	0.01	0	99	[NT]
6:2 FTS	µg/L	0.01	Org-035	<0.01	1	0.04	0.05	22	94	[NT]
8:2 FTS	µg/L	0.01	Org-035	<0.01	1	0.02	0.03	40	129	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	93	1	98	94	4	99	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	114	1	113	119	5	110	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	96	1	96	94	2	80	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	106	1	98	102	4	87	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	94	1	98	92	6	88	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	100	1	128	113	12	88	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	107	1	117	134	14	90	[NT]

Result Definitions

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

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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.

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Office - Envirolab Services
7A The Parade Norwood SA 5067
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: GHD Pty Ltd (Adelaide)	**Client Project Name / Number / Site etc (ie report title):** 3319080: Oakden Station Soil Testing
Contact Person: Joel Chance	
Project Mgr: Dilara Valiff	**PO No.: 3319080**
Sampler: Joel Chance	**Envirolab Quote No. :** 19SA002
Address: Level 4, 211 Victoria Square. Adelaide, SA, 5000.	**Date results required:** N/A **Or choose: Standard**
Phone: Mob: 0439 277 657	**Report format: esdat**
Email: joel.chance@ghd.com, dilara.valiff@ghd.com	**Lab Comments: N/A**

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	PFAS (Short - Suite)														Provide as much information about the sample as you can
1	Soil_1_0-0.2	N/A	18/04/2019	Soil	X														
2	Soil_1_0.3-0.5	N/A	18/04/2019	Soil	X														
3	Soil_1_0.8-1.0	N/A	18/04/2019	Soil	X														
4	Soil_2_0-0.2	N/A	18/04/2019	Soil	X														
5	Soil_2_0.3-0.5	N/A	18/04/2019	Soil	X														
6	Soil_2_0.8-1.0	N/A	18/04/2019	Soil	X														
7	Soil_3_0-0.2	N/A	18/04/2019	Soil	X														
8	Soil_3_0.3-0.5	N/A	18/04/2019	Soil	X														
9	Soil_3_0.8-1.0	N/A	18/04/2019	Soil	X														
10	Soil_4_0-0.2	N/A	18/04/2019	Soil	X														
11	Soil_4_0.3-0.5	N/A	18/04/2019	Soil	X														
12	Soil_5_0-0.2	N/A	18/04/2019	Soil	X														
13	QA01	N/A	18/04/2019	Soil	X														
	QA02	N/A	18/04/2019	Soil	X														Forward to MGT.Eurofins
14	RB01	N/A	18/04/2019	Water	X														

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 21628O
Date Received: 24/04/19
Time Received: 12:30
Received by: JD
Temp: Cool/Ambient 18°C
Cooling: Ice/Icepack
Security: Intact/Broken/None
Received: Tuyet DeWitt 24/04/19

Relinquished by (Company):	GHD Pty Ltd	**Received by (Company):** ELS	***Lab use only:***
Print Name:	Joel Chance	**Print Name:** Cassie Glew	**Samples Received: Ambient**
Date & Time:	18/04/2019	**Date & Time:** 18/04/19 11:10	**Temperature Received at: N/A**
Signature:	JC	**Signature:**	**Transported by: Hand delivered**

White - Lab copy / Blue - Client copy / Pink - Retain in Book

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

CERTIFICATE OF ANALYSIS 216230

Client Details

Client	GHD Pty Ltd
Attention	Joel Chance
Address	GPO Box 2052, Adelaide, SA, 5001

Sample Details

Your Reference	**3319080: Oakden Station Soil Testing**
Number of Samples	13 Soil, 1 Water
Date samples received	24/04/2019
Date completed instructions received	24/04/2019

Analysis Details

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

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

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

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

Report Details

Date results requested by	01/05/2019
Date of Issue	30/04/2019

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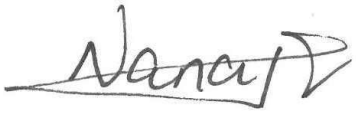
Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Nancy Zhang, Laboratory Manager, Sydney
Phalak Inthakesone, Organics Development Manager, Sydney

Authorised By



Nancy Zhang, Laboratory Manager

PFAs in Soils Short						
Our Reference		216230-1	216230-2	216230-3	216230-4	216230-5
Your Reference	UNITS	Soil_1_0-0.2	Soil_1_0.3-0.5	Soil_1_0.8-1.0	Soil_2_0-0.2	Soil_2_0.3-0.5
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019
Date prepared	-	26/04/2019	26/04/2019	26/04/2019	26/04/2019	26/04/2019
Date analysed	-	26/04/2019	26/04/2019	26/04/2019	26/04/2019	26/04/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	13	340	160	15	20
Perfluorooctanesulfonic acid PFOS	µg/kg	780	200	330	280	1,100
Perfluorooctanoic acid PFOA	µg/kg	2.2	11	5.2	1.5	1.9
6:2 FTS	µg/kg	0.2	<0.1	<0.1	0.1	<0.1
8:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.2	<0.1
Surrogate $^{13}C_8$ *PFOS*	%	102	98	108	111	123
Surrogate $^{13}C_2$ *PFOA*	%	136	121	126	121	116
Extracted ISTD $^{18}O_2$ *PFHxS*	%	108	87	103	113	110
Extracted ISTD $^{13}C_4$ *PFOS*	%	60	100	86	66	56
Extracted ISTD $^{13}C_4$ *PFOA*	%	97	111	113	61	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	110	117	133	71	115
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	111	139	#	37	92
Total Positive PFHxS & PFOS	µg/kg	790	540	490	300	1,100
Total Positive PFOS & PFOA	µg/kg	780	210	340	280	1,100
Total Positive PFAS	µg/kg	800	550	500	300	1,100

PFAs in Soils Short						
Our Reference		216230-6	216230-7	216230-8	216230-9	216230-10
Your Reference	UNITS	Soil_2_0.8-1.0	Soil_3_0-0.2	Soil_3_0.3-0.5	Soil_3_0.8-1.0	Soil_4_0-0.2
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019
Date prepared	-	26/04/2019	26/04/2019	26/04/2019	26/04/2019	26/04/2019
Date analysed	-	26/04/2019	26/04/2019	26/04/2019	26/04/2019	26/04/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	44	46	43	41	6.4
Perfluorooctanesulfonic acid PFOS	µg/kg	1,400	660	550	460	79
Perfluorooctanoic acid PFOA	µg/kg	3.9	6.1	5.1	4.8	1.1
6:2 FTS	µg/kg	<0.1	0.2	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.1	<0.2	<0.1	<0.2	<0.1
Surrogate $^{13}C_8$ *PFOS*	%	124	97	101	124	105
Surrogate $^{13}C_2$ *PFOA*	%	123	113	119	139	117
Extracted ISTD $^{18}O_2$ *PFHxS*	%	121	126	126	123	144
Extracted ISTD $^{13}C_4$ *PFOS*	%	58	58	72	70	104
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	74	108	74	121
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	125	71	129	90	123
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	66	42	61	39	82
Total Positive PFHxS & PFOS	µg/kg	1,400	710	590	500	85
Total Positive PFOS & PFOA	µg/kg	1,400	670	560	460	80
Total Positive PFAS	µg/kg	1,400	710	600	510	86

PFAs in Soils Short				
Our Reference		216230-11	216230-12	216230-13
Your Reference	UNITS	Soil_4_0.3-0.5	Soil_5_0-0.2	QA01
Type of sample		Soil	Soil	Soil
Date Sampled		18/04/2019	18/04/2019	18/04/2019
Date prepared	-	26/04/2019	26/04/2019	26/04/2019
Date analysed	-	26/04/2019	26/04/2019	26/04/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	16	58	7.6
Perfluorooctanesulfonic acid PFOS	µg/kg	27	240	76
Perfluorooctanoic acid PFOA	µg/kg	0.9	3.4	1
6:2 FTS	µg/kg	<0.1	0.2	<0.1
8:2 FTS	µg/kg	<0.1	<0.1	<0.1
Surrogate $^{13}C_8$ *PFOS*	%	92	104	108
Surrogate $^{13}C_2$ *PFOA*	%	126	122	125
Extracted ISTD $^{18}O_2$ *PFHxS*	%	146	138	154
Extracted ISTD $^{13}C_4$ *PFOS*	%	132	108	120
Extracted ISTD $^{13}C_4$ *PFOA*	%	121	134	139
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	142	150	154
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	139	#	121
Total Positive PFHxS & PFOS	µg/kg	44	300	84
Total Positive PFOS & PFOA	µg/kg	28	240	77
Total Positive PFAS	µg/kg	45	300	85

Moisture						
Our Reference		216230-1	216230-2	216230-3	216230-4	216230-5
Your Reference	UNITS	Soil_1_0-0.2	Soil_1_0.3-0.5	Soil_1_0.8-1.0	Soil_2_0-0.2	Soil_2_0.3-0.5
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019
Date prepared	-	26/04/2019	26/04/2019	26/04/2019	26/04/2019	26/04/2019
Date analysed	-	29/04/2019	29/04/2019	29/04/2019	29/04/2019	29/04/2019
Moisture	%	13	11	18	16	16

Moisture						
Our Reference		216230-6	216230-7	216230-8	216230-9	216230-10
Your Reference	UNITS	Soil_2_0.8-1.0	Soil_3_0-0.2	Soil_3_0.3-0.5	Soil_3_0.8-1.0	Soil_4_0-0.2
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019
Date prepared	-	26/04/2019	26/04/2019	26/04/2019	26/04/2019	26/04/2019
Date analysed	-	29/04/2019	29/04/2019	29/04/2019	29/04/2019	29/04/2019
Moisture	%	17	13	12	11	8.1

Moisture				
Our Reference		216230-11	216230-12	216230-13
Your Reference	UNITS	Soil_4_0.3-0.5	Soil_5_0-0.2	QA01
Type of sample		Soil	Soil	Soil
Date Sampled		18/04/2019	18/04/2019	18/04/2019
Date prepared	-	26/04/2019	26/04/2019	26/04/2019
Date analysed	-	29/04/2019	29/04/2019	29/04/2019
Moisture	%	12	12	7.8

PFAS in Waters Short		
Our Reference		216230-14
Your Reference	UNITS	QA02
Type of sample		Water
Date Sampled		18/04/2019
Date prepared	-	26/04/2019
Date analysed	-	26/04/2019
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01
6:2 FTS	µg/L	<0.01
8:2 FTS	µg/L	<0.01
Surrogate $^{13}C_8$ *PFOS*	%	104
Surrogate $^{13}C_2$ *PFOA*	%	94
Extracted ISTD $^{18}O_2$ *PFHxS*	%	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	108
Extracted ISTD $^{13}C_4$ *PFOA*	%	100
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	99
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	102
Total Positive PFHxS & PFOS	µg/L	<0.01
Total Positive PFOA & PFOS	µg/L	<0.01
Total Positive PFAS	µg/L	<0.01

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Org-035	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using 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 5.1 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: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	216230-2
Date prepared	-			26/04/2019	1	26/04/2019	26/04/2019		26/04/2019	26/04/2019
Date analysed	-			26/04/2019	1	26/04/2019	26/04/2019		26/04/2019	26/04/2019
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	<0.1	1	13	10	26	93	##
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	<0.1	1	780	660	17	104	##
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	<0.1	1	2.2	1.4	44	96	71
6:2 FTS	µg/kg	0.1	Org-035	<0.1	1	0.2	0.1	67	94	100
8:2 FTS	µg/kg	0.1	Org-035	<0.1	1	<0.1	<0.1	0	92	84
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	92	1	102	100	2	102	115
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	135	1	136	121	12	132	118
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	110	1	108	110	2	100	95
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	110	1	60	60	0	88	90
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	103	1	97	111	13	92	111
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	117	1	110	115	4	115	125
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-035	150	1	111	100	10	137	145

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	26/04/2019	26/04/2019		[NT]	[NT]
Date analysed	-			[NT]	11	26/04/2019	26/04/2019		[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-035	[NT]	11	16	16	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-035	[NT]	11	27	30	11	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-035	[NT]	11	0.9	0.8	12	[NT]	[NT]
6:2 FTS	µg/kg	0.1	Org-035	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
8:2 FTS	µg/kg	0.1	Org-035	[NT]	11	<0.1	<0.1	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-035	[NT]	11	92	105	13	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-035	[NT]	11	126	111	13	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-035	[NT]	11	146	146	0	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-035	[NT]	11	132	118	11	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-035	[NT]	11	121	134	10	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-035	[NT]	11	142	152	7	[NT]	[NT]

QUALITY CONTROL: PFAs in Soils Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	[NT]	11	139	147	6	[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Short						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			26/04/2019	[NT]	[NT]	[NT]	[NT]	26/04/2019	[NT]
Date analysed	-			26/04/2019	[NT]	[NT]	[NT]	[NT]	26/04/2019	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	92	[NT]
6:2 FTS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	93	[NT]
8:2 FTS	µg/L	0.01	Org-035	<0.01	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-035	105	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-035	103	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-035	114	[NT]	[NT]	[NT]	[NT]	115	[NT]
Extracted ISTD $^{13}C_4$ PFOS	%		Org-035	132	[NT]	[NT]	[NT]	[NT]	135	[NT]
Extracted ISTD $^{13}C_4$ PFOA	%		Org-035	118	[NT]	[NT]	[NT]	[NT]	121	[NT]
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-035	133	[NT]	[NT]	[NT]	[NT]	132	[NT]
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-035	125	[NT]	[NT]	[NT]	[NT]	112	[NT]

Result Definitions

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

Quality Control Definitions

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

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

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

Duplicates: >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; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

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).

PQL raised for 8:2-FTS for samples 4, 7and 9 due to matrix interference.

Appendix E – Data quality objectives and quality assurance / quality control

F. Data quality objectives and quality assurance / quality control

F.1 Data quality objectives

The data quality objectives (DQOs) and investigation strategy have been developed using the methodology discussed in NEPM Schedule B (2) *Guideline on Data Collection, Sample Design and Reporting.* The guideline nominates the implementation of the DQO process in Section 5 of AS4482.1-2005. The purpose of the DQO process is to ensure that the data collection activities are focused on collecting the information needed to make decisions, and answering the relevant questions leading up to such decisions.

The Data Quality Objectives (DQOs) establish a framework for contamination investigations which incorporates a seven stepped continuum that defines the problem at the site. A series of stages then optimises the design of the investigation. The seven steps are outlined below:

- Step 1: State the Problem
- Step 2: Identify the Principal Study Question
- Step 3: Inputs to the Decision
- Step 4: Boundaries of the Study
- Step 5: Decision Rules
- Step 6: Tolerable Limits on Decision Errors
- Step 7: Optimisation of the Data Collection Process

An overview of the DQOs for the investigation is presented below.

F.1.1 Step 1: State the problem

The South Australia Metropolitan Fire Service (SAMFS) engaged GHD to assess the potential sources and exposure pathways of per- and polyfluorinated alkyl substances (PFAS). It is thought that the pathways in question may have contributed to the elevated blood PFAS levels detected in the firefighters at SAMFS stations across South Australia, particularly at Largs North Fire Station and Gallantry.

F.1.2 Step 2: Identify the principal study question

The Environmental Investigation was based on the objectives listed in Section 1.2.

F.1.3 Step 3: Inputs to the decision

The following inputs are required for the decision:

- Quantitative and qualitative data gained through intrusive sampling, analytical works and observations during intrusive investigations.

F.1.4 Step 4: Boundaries of the study

Spatial boundaries for the site are identified in Figures at the end of this report with the vertical extent of the investigations limited to 0.2 mbgl.

F.1.5 Step 5: Decision rules

Water and soil analytical data will be assessed against the criteria adopted from relevant guidance as discussed in Section 4.

F.1.6 Step 6: Tolerable limits on decision errors

Data generated as part of the Environmental Investigation must be appropriate to allow decisions to be made with confidence. Specific limits have been adopted in accordance with the appropriate guidance from the AS4482.1 which includes appropriate indicators of data quality [data quality indicators (DQIs) used to assess QA/QC and GHD's Standard Field Operating Procedures].

To assess the usability of the data prior to making decisions, the data will be assessed against pre-determined DQIs. The DQIs including precision, accuracy, representativeness, comparability and completeness, will be reviewed at the completion of the Environmental Investigation to assess for the presence of decision errors.

The pre-determined DQIs established for the investigation are discussed below and shown in Table F-1.

- Precision - measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percentage Difference (RPD) of duplicate samples
- Accuracy - measures the bias in a measurement system. The accuracy of the laboratory data that are generated during this investigation is a measure of the closeness of the analytical results obtained by a method to the 'true' (or standard) value. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards
- Representativeness - expresses the degree to which sample data accurately and precisely represent a characteristic of a population or an environmental condition. Representativeness is achieved by collecting samples on a representative basis across the site, and by using an adequate number of sample locations to characterise the site to the required accuracy
- Comparability - expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples; ensuring analysing laboratories use consistent analysis techniques and reporting methods
- Completeness - is defined as the percentage of measurements made which are judged to be valid measurements.

Table F-1 Summary of quality assurance / quality control criteria

Data quality indicator	Frequency	Data quality acceptance criteria
Precision		
Duplicates (Intra-Laboratory) Duplicates (Inter-Laboratory)	1 / 20 samples 1 / 20 samples	The RPD values were compared to the 30–50% RPD acceptance criterion adopted from Australian Standard AS4482.1 (for non- and semi-volatiles). For volatile compounds, no published RPD acceptance criteria exists; however, RPDs of <100% are considered acceptable. RPDs for results

Data quality indicator	Frequency	Data quality acceptance criteria
		less than the laboratory practical quantitation limits (PQL) and in instances where results were greater than the PQL for the one sample, but below the PQL for the corresponding primary or duplicate sample, RPDs were not calculated.
Accuracy		
Laboratory (Method) Blank	One sample per batch of 20 samples or fewer	Less than detection limit or limit of reporting (LOR) of the method used.
Laboratory Control Spike		Dynamic Limits varying on previous laboratory data.
Laboratory Spike (Surrogate and Matrix)		Percent recovery is used to assess spiked samples and surrogate standards. Percent recovery is dependent on the type of analyte tested, the concentrations of analytes, and the sample matrix. For matrix spikes Eurofins adopts a matrix spike recovery range of 70-130%. For surrogate spikes Eurofins adopts static limits that vary dependant on matrix and surrogate compounds.
Laboratory Duplicates	One sample per batch of 10 samples or fewer	Laboratory duplicate samples should have RPD's within the NEPM acceptance criteria of ±30%. The laboratory RPDs have been assessed using the following ranges: Results <10 times LOR: no limits. Results between 10 and 20 times LOR 0% - 50%. Results >20 times LOR: 0-20%.
Representativeness		
Sampling appropriate for media and analytes	All samples	-
Samples extracted and analysed within holding times	All samples	Organics (14 days) Inorganics (6 months)
LORs appropriate and consistent	All samples	All samples
Comparability		
Consistent field conditions, sampling staff and laboratory analysis	All samples	All samples
Standard operating procedures for sample collection & handling	All samples	All samples
Standard analytical methods used for all analyses	All samples	All samples
Completeness		

Data quality indicator	Frequency	Data quality acceptance criteria
Sample description and COCs completed and appropriate	All Samples	All Samples
Appropriate documentation	All Samples	All Samples
Satisfactory frequency and result for QA/QC samples	All QA/QC samples	-
Data from critical samples is considered valid	-	Critical samples valid
Notes: COC: Chain of Custody LOR: Limit of Reporting QA/QC: Quality assurance / quality control		

F.1.7 Step 7: Optimisation of the data collection process

To optimise the design of the Environmental Investigation, a sampling and analytical program was undertaken. Results (including QA/QC results) were reviewed as they were received from the laboratory and any inconsistencies or unexpected data were further investigated with the laboratory. Corrective actions were implemented as required.

F.2 Field QA/QC

A series of QA/QC procedures were implemented for the field investigation works, which included:

- Collection of QC Samples
- Use of standard sampling procedures
- Use of standard field sampling forms, including Chain of Custodies (COCs)
- Documenting the calibration and use of field equipment.

All field works were conducted by a GHD environmental scientist in accordance with GHD's *Standard Field Operating Procedures* (SFOP).

F.2.1 QA/QC sampling

Field QA/QC samples were collected and analysed. Field QC sampling was conducted in reference to AS 4482.1: 2005 and NEPM 2013 Schedule B (3) requirements and included the analyses of the following types of samples in Table F-2.

Table F-2 Field QA/QC sample details

Field QA/QC sample type	Details
Intra-Laboratory Duplicate (Blind)	Comprise a single sample that is divided into two separate sampling containers. Both samples are sent anonymously to the primary project laboratory. Blind duplicates provide an indication of the analytical precision of the laboratory, but are inherently influenced by other factors such as sampling techniques and sample media heterogeneity.
Inter-Laboratory Duplicate (Split)	Inter-Laboratory Duplicate (Split) samples are two separate samples collected at the same location and analysed by two separate laboratories to determine the analytical proficiency of the primary laboratory.

Rinsate	A sample of analyte free water poured over or through decontaminated field sampling equipment prior to the collection of environmental samples to assess the adequacy of the decontamination process.

GHD adopts the AS4482.1 acceptance criteria of 30% and 50% RPD for field duplicates of inorganics and organics, respectively. Blind duplicate and split samples should have RPDs less than the criteria in each instance. However it is noted that the criteria will not always be achieved, particularly in heterogeneous materials, or at low analyte concentrations.

In the instance where samples and their corresponding duplicates have concentrations of target analytes less than the laboratory LOR, no quantitative comparison can be carried out and therefore the RPD is undefined. This is also the case for situations where the sample result is less than ten times the laboratory LOR.

Duplicate, split and rinsate sample results and Relative Percentage Difference (RPD) calculations are presented in Appendix E.

F.2.2 Sample handling and preservation

All sample collection methodology is documented in Section 3.

All samples were immediately placed in an insulated cooler containing ice for storage and were delivered by GHD Field Staff to the laboratory upon the completion of field work as promptly as possible.

All samples were received intact as per the Sample Receipt Notification (included in Appendix G).

F.2.3 Chain of custody

Unique Chain of Custody documentation and distinct batch numbers accompany all sample batches. This documentation is included in Appendix D.

F.3 Laboratory QA/QC

Envirolab Group, the laboratory subcontracted by GHD to analyse samples is certified by the NATA for the required analysis. NATA certification provides for laboratory QA procedures to be in place and to be carried out on an on-going basis.

As part of the NATA requirements, the laboratories carried out and reported analysis of laboratory quality control samples, such as:

- Duplicate samples (the same sample analysed more than once)
- Blanks (containing none of the analytes to be analysed)
- Spiked samples (containing known additions of the analytes to appropriate matrices)
- Standard samples (samples containing known concentrations of the analytes - also known as reference standards).

F.3.1 Laboratory QA/QC procedures

As part of NATA requirements, the laboratories incorporated a range of QA methods to ensure accuracy of data. This includes the analyses of internal laboratory QC samples, details of which have been provided in Table F-3.

Table F-3 Laboratory QC sample details

Laboratory QA/QC sample	Details
Laboratory (Method) Blank	Usually an organic or aqueous solution that is as free as possible of analytes of interest to which is added all the reagents, in the same volume, as used in the preparation and subsequent analysis of the samples. The reagent blank is carried through the complete sample preparation procedure and contains the same reagent concentrations in the final solution as in the sample solution used for analysis. The reagent blank is used to correct for possible contamination resulting from the preparation or processing of the sample.
Laboratory Control Sample	A reference standard of known concentration is analysed along with a batch of samples. The Laboratory Control Sample provides an indication of the analytical accuracy and the precision of the test method and is used for inorganic analyses.
Laboratory Spike	An authentic field sample is 'spiked' by adding an aliquot of known concentration of the target analyte(s) prior to sample extraction and analysis. A spike documents the effect of the sample matrix on the extraction and analytical techniques. Spiked samples will be analysed for each batch where samples are analysed for organic chemicals of concern.
Surrogate Samples	These are organic compounds which are similar to the analyte of interest in terms of chemical composition, extractability, and chromatographic conditions (retention time), but which are not normally found in environmental samples. These surrogate compounds are 'spiked' into blanks, standards and samples submitted for organic analyses by gas-chromatographic techniques prior to sample extraction. Surrogate Standard / Spikes provide a means of checking that no gross errors have occurred during any stage of the test method leading to significant analyte loss.
Laboratory Duplicates	The analytical laboratory collects duplicate sub samples from one sample submitted for analytical testing at a rate equivalent to one in twenty samples per analytical batch, or one sample per batch if less than twenty samples are analysed in a batch. A laboratory duplicate provides data on the analytical precision and reproducibility of the test result. The precision of analysis performed by the laboratory is determined by the calculation of the relative percent difference (RPD). The RPD is calculated based on a comparison of an intra-laboratory split of the sample material with results representing the percent difference between the two sample concentrations for a specific contaminant. The RPD is calculated using the following formula: $RPD(\%) = \frac{\lvert C_o - C_d \rvert}{C_o + C_d} \times 200$ Where Co = Analyte concentration of the original sample Cd = Analyte concentration of the duplicate sample

The laboratory is required to provide this information to GHD. The individual analytical laboratories conduct an assessment of the laboratory QC program internally; however the results are also reviewed and assessed by GHD.

F.4 Field QC Results

The field QC results analysis below considers all sample types collected as part of the environmental investigation.

F.4.1 Water

A total of three hundred and sixty seven (368) primary water samples were collected, submitted and analysed as part of the environmental investigation.

Eighty five (86) split (inter and intra laboratory) replicate samples were collected and analysed as part of the investigation. The target frequency for analysis of field QC samples is one replicate pair per 20 primary samples (10%). In this instance, this frequency was achieved.

The discrepancies in the RPD noted between the 16 water duplicate pairs and was considered to be a result due to the low concentrations of the reported analytes exaggerating the RPD. Even a minor alteration in concentration between samples can result in a high RPD value when the original concentration is low, as per the analyte concentrations reported above. As such, the calculated RPD values are not considered an indicator of poor integrity of results.

F.4.2 Soil

A total of sixty four (64) primary soil samples were collected, submitted and analysed as part of the environmental investigation.

Three (3) intra-laboratory samples and two (2) inter-laboratory samples were collected and analysed as part of the investigation, giving a frequency of 8%. The target frequency for analysis of field QC samples is one replicate pair per 20 primary samples (10%). In this instance, this frequency was slightly below the target of 10%, however based on the low concentrations detected and general compliance with the RPD targets, this lower than target frequency is not considered to compromise the reliability of the data set.

No RPD's exceeded the nominated criteria of 50% difference.

F.4.3 Rinsate

Twelve (12) rinsate samples were analysed as part of the environmental investigation. None of the samples exceeded the laboratory LOR for PFOS / PFHxS (0.01 µg/L) and / or PFOA (0.01 µg/L), therefore indicating, that there was no evidence of cross contamination during sample collection.

F.5 Laboratory program

The NATA certified laboratory utilised for this assessment (Envirolab Group) undertook their own internal quality assurance and quality control procedures for sample analysis. GHD has reviewed the internal laboratory control data provided within the laboratory reports, which are provided in Appendix D.

F.6 Overall Assessment of Data Quality

With the exception of the non-conformances listed above, the majority of the GHD QAQC parameters were within the specified requirements, therefore the data is considered to be valid and of sufficient quality for the purposes of this Environmental Investigation.

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