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An Ghníomhaireacht um Chaomhnú Comhshaoil

PFAS Monitoring Survey

Study of Selected Sites on the River Brosna and River Shannon 2021 - 2022

Environmental Monitoring and Surveillance

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Study of Selected Sites on the River Brosna and River Shannon 2021 - 2022

EPA Office of Radiation Protection and Environmental Monitoring Project Report

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Disclaimer

This report is based on four rounds of monitoring carried out from June 2021 to February 2022. More recent data will have become available since the project was completed.

This report addresses the need for projects in Ireland to inform policymakers and other stakeholders on a range of questions in relation to environmental protection. The report is intended as a source of knowledge on PFAS topics for work by regulators and stakeholders on the protection of the environment. This report contributes to work by the EPA on the European Union (Persistent Organic Pollutants) Regulations 2020, as well as to water monitoring and protection initiatives.

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CONTENTS

EXECUTIVE SUMMARY

PFAS are a large group of man-made chemicals which have been used in industrial and consumer products since the 1950s and are found in many everyday products. PFAS are often referred to as "forever chemicals" due to their persistence in the environment. They have been found to cause harmful effects on human and animal health, such as increased risk of cancers, high cholesterol, reproductive disorders, hormonal disruption and weakening of the immune system[1]. Exposure to PFAS can arise from a wide range of sources including ingestion of contaminated food and water, inhalation of PFAS particulates in household dust and air and dermal contact with consumer products containing PFAS.

Three PFAS are currently restricted under the international UN Stockholm Convention on Persistent Organic Pollutions and the EU Persistent Organic Pollutants Regulation; namely PFOS, PFOA and PFHxS. The Environmental Protection Agency (EPA) is designated as the competent authority for the EU Persistent Organic Pollutants (POPs) Regulation and has obligations under the POPs National Implementation Plan. One of these obligations is to carry out environmental monitoring to identify potential hotspots of POPs contamination within the Irish environment.

In previous work completed by the EPA under the Water Framework Directive monitoring programme, the River Brosna and Lough Owel were noted for increased levels of PFAS detections when compared to other areas monitored across Ireland, particularly for PFOA. To investigate further, this study was undertaken to analyse a range of PFAS compounds in water and sediment samples in the River Brosna. The nearby River Shannon was included in this study, firstly due to its large catchment area which includes industrial and domestic pressures, and also due to the River Brosna being a tributary, entering at Shannon Harbour, Co. Offaly. Samples were collected from sampling points along the River Brosna, at six locations, and the River Shannon, at nine locations, between June 2021 and February 2022.

Samples were collected on four separate occasions over the course of this monitoring campaign. Water samples were collected at each of the 15 locations during the four sampling events, while sediments samples were collected where possible. Including quality control samples, this totalled 120 water samples and 26 sediment samples in this survey campaign. PFAS were detected in four locations along the River Brosna and on one occasion in the River Shannon. This monitoring data suggests that PFAS are present in the River Brosna, from the first sampling point RB_SW06 upstream of Mullingar town, County Westmeath as far downstream as RB_SW03, Kilbeggan, County Westmeath. Although samples were not collected from Lough Owel and Lough Ennell during this campaign, monitoring was previously carried out in Lough Owel under the Water Framework Directive (WFD) monitoring programme during the latter half of 2019, PFAS were detected during that monitoring period. The status of PFAS is unknown in Lough Ennell, however PFAS were detected upstream and downstream of this lake.

This study can conclude that the investigated stretch of the River Brosna is a potential hotspot for PFAS, in particular for PFOA. These findings together with available monitoring data from the WFD programme would suggest that the waterbodies from Lough Owel as far downstream as Kilbeggan are potentially impacted by PFAS and require further investigation, as detailed in the Actions Taken and Planned section below. Further monitoring has been carried out in this area since the completion of this project and will continue as necessary under the Water Framework Directive

1 HBM4EU - Human Biomonitoring for Europe – *https://www.hbm4eu.eu/hbm4eu-substances/per-polyfluorinated-compounds/*

1. INTRODUCTION

Per- and Poly-fluoroalkyl substances (PFAS) are a large group of organoflourine compounds, the most regulated and widely known of which are perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). Due to their unique chemical and physical properties, including those associated with repelling water and oil, thermal and chemical stability, and surfactant properties, PFAS have been widely used in a range of consumer products and industrial applications including stain-resistant fabric, non-stick coated cookware and firefighting foams.

Due to the well documented negative effects of these substances on human health and the environment, PFOS and its derivatives, were severely restricted under the Stockholm Convention[2] in May 2009, followed by PFOA, it's salts and related compounds in May 2019. Their use is also prohibited (PFOS, PFOA and related compounds), with some time-limited exemptions permitted, under the EU Persistent Organic Pollutants (POPs) Regulation (EU) 2019/1021[3]. In 2022, it was agreed by Parties of the Convention to add PFHxS to the list of POPs under the Stockholm Convention and restrictions for use of PFHxS, its salts and related compounds were added to the EU POPs Regulation in 2023. Perfluorocarboxylic acids ('C9-C14 PFCAs'), their salts and C9-C14 PFCA-related substances have been restricted under REACH Regulation (EC) 1907/2006[4] in 2023. Several other PFAS are being evaluated for restriction under the Stockholm Convention and/or are considered Substances of Very High Concern (SVHC) under the REACH Regulation (EC) 1907/2006[4] and undergoing extensive investigations for potential risks posed.

In Ireland, the European Union (Persistent Organic Pollutants) Regulation 2020 designate the Environmental Protection Agency (EPA) as the competent authority for the purposes of the EU POPs Regulation. The EPA's responsibilities include the preparation and maintenance of release inventories and, in consultation with public authorities concerned and the public, the preparation of a national action plan and implementation plan setting out how Ireland is meeting its obligations under the Stockholm Convention. The national POPs regulation also set out the roles of public authorities concerned in relation to POPs including a general obligation to cooperate with respect to obligations concerning POPs.

Under the POPs National Implementation Plan, the EPA has actions assigned to it covering nature and extent studies for specific POPs, risk assessments for certain POPs in relevant environmental media and including new and candidate POPs into relevant monitoring programmes. This environmental monitoring study to identify potential hot spots of persistent organic pollutants (POPs) contamination within the Irish environment was carried out in the context of these actions.

For this project, AECOM Ireland Limited were engaged to collect and process environmental samples, while ALS Life Sciences were responsible for analysis of selected PFAS and pesticides in surface water and sediment samples.

2 *UN Stockholm Convention on persistent organic pollutants*

3 *Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants*

4 *Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)*

1.1 OBJECTIVES

The aim of this study was to collect representative samples of water and sediment along a selected section of the River Shannon and River Brosna for PFAS analysis, to provide comment on findings and recommendations for future studies and to add to our knowledge base around the extent of PFAS in the Irish environment and so assist in determining the risks posed by these substances within the Irish context. The main objectives were to:

1. Engage AECOM to collect representative samples along the River Brosna and River Shannon for analysis of PFAS by ALS Life Sciences;
2. Determine the concentration of a range of PFAS within the River Brosna and River Shannon region;
3. Evaluate the potential impact and provide recommendations on the next steps.

2. BACKGROUND INFORMATION

The EPA has carried out several studies relating to PFAS in recent years, results from which have highlighted the potential risks posed to the aquatic environment and to human health, for example PFAS in fire-fighting foams and contamination of fire-training sites as well as PFAS in landfill leachate, see EPA webpage on PFAS[5] for further information. PFAS, specifically PFOS and PFOA, have also been detected at low levels in several Irish rivers, lakes and transitional and coastal waters as part of the WFD Monitoring Programme.

A scoping study was completed in 2017-2018 under the EPA's WFD monitoring programme to gather information on the 12 additional Priority Substances listed in the Environmental Quality Standard (EQS) Directive revision 2013/39/EU, S.I. 386 of 2015[6]. The analysis suite used included a number of different PFAS compounds, including PFOS and PFOA. Twenty-four water sampling points were chosen in conjunction with the EPA water catchments unit to find suitable locations which would give a representative data set of Ireland's inland waters. Sampling took place for the scoping study during four rounds from Autumn 2017 to Spring 2018. Twenty-one biota sampling points were chosen from the Inland Fisheries Ireland (IFI) 2017 sampling plan.

Results from the River Brosna were noted from this 2017/2018 study due to high levels of PFAS detected throughout the scoping study sampling campaign, specifically PFOA which had recently been added to the Stockholm Convention as a Persistent Organic Pollutant. PFOA was detected in this waterbody during all four rounds of sampling, while PFOS, Perfluoroheptanoic acid (PFHpA), Perfluorohexanoic acid (PFHxA) and Perfluorononanoic acid (PFNA) were detected in at least one sampling round during the 2017/2018 study. The sampling point, at Butler's Bridge downstream of Mullingar, had the highest concentrations of PFHpA, PFHxA and PFOA detected in the whole 2017/2018 study. PFOA was detected at 0.108 µg/L during the final round of sampling in April 2018, while the average PFOA concentration at this sampling point over the campaign was just under 0.049 µg/L. This is nearly 10 times higher than the next highest average concentration level detected during this 2017/2018 study, which was found at Ringsend, Dublin. Biota monitoring was also carried out as part of this scoping study in Lough Ennell, downstream of the River Brosna site, which found no detects of PFAS in biota.

Due to the rotating schedule of monitoring under the WFD programme, at the time of this 2021/2022 study there was no new data collected on PFAS in the River Brosna since the initial 2017/2018 scoping study. However, monitoring was carried out in Lough Owel, upstream of the River Brosna, during the latter half of 2019 under the WFD programme. Analysis of this WFD monitoring data also indicates that PFOA is present in Lough Owel, where the average level detected in the six month period of 2019 was approximately 0.008 µg/L.

The River Shannon is the largest river in Ireland, and has a large catchment area which contains a variety of pressures, such as industrial discharges, urban waste water treatment plant emissions, etc. The River Brosna is also a tributary of the River Shannon, joining at Shannon Harbour, Co. Offaly.

For the reasons outlined above, the EPA identified the River Brosna and nearby River Shannon area as a suitable location to carry out further surveys for PFAS and initiated a study to investigate this further.

In consultation with the National Aquatic Environmental Chemistry Group (NAECG), additional samples were taken during this survey to monitor pesticides and acid herbicides of interest in the River Brosna and River Shannon. Although these results are noted here, these will not be addressed in this report. Field measurements and field observations were also taken on site as part of this study to gather additional data on the sample collection points. This information can be used to further understand the results gathered; however, this is also not addressed in detail in this report.

5 *What are PFAS?* - EPA webpage on PFAS

6 *S.I. No. 385 of 2015* – European Union Environmental Objectives (Surface Waters) (Amendment) Regulation 2015.

3. FINDINGS

3.1 STUDY RESULTS

The sampling study consisted of 4 sampling events, starting in June 2021 and ending in February 2022. Samples were collected at various points along the River Brosna (6 sites) and the River Shannon (9 sites), as shown in Figure 1 below. 100 independent water samples (60 primary water samples and 40 secondary) and 20 quality control samples were collected and analysed. In addition, 17 primary sediment samples, 9 duplicate sediment samples and 3 field equipment blanks were collected and analysed.

Figure 1. Map of Sampling Points on River Brosna and River Shannon (Generated with Microsoft PowerBI)

PFAS were detected in samples at five of the fifteen sites surveyed; one site on the River Shannon and four sites on the River Brosna, see Appendix A for tabulated detections information and Appendix B for all results. These detections from the study are summarised as follows:

- PFOS and PFHxS were detected in sediment at sampling point RS_SW08 in the River Shannon during the third round of sampling. PFOS was detected in sediment at a concentration of 0.0100 mg/kg Dry Weight (DW), while PFHxS was detected in the same sample at 0.000502 mg/kg DW. This sampling location in Carrick-On-Shannon had not been highlighted previously as an area of interest.

- PFOA was detected in sediment at sampling point RB_SW06 in the River Brosna, during three rounds of sampling. This sampling location is located beside the Greenway, downstream of Lough Owel, and upstream of Mullingar town. This sampling point is also referred to as Cullion Fish Farm/Greenway in Appendix B, however this sampling point description does not reflect on any operations in the locality or on the status of the fish farm mentioned. PFOA was detected in sediment at a concentration of 0.0269 mg/kg DW during the second sampling round, a second independent sample did not detect PFOA above the Limit of Reporting (LOR). During the third round of sampling two independent sediment samples were taken, where PFOA was detected in both samples at concentrations of 0.00175 mg/kg DW and 0.000796 mg/kg DW. PFOA was detected during the final sampling round at a concentration of 0.00269 mg/kg DW in sediment.

- PFOA and PFDA were detected at RB_SW05 in the River Brosna, these samples were collected at the Joe Dolan Bridge downstream of Mullingar town. PFOA was detected in each of the four rounds of water sampling ranging in concentration from 0.0258 µg/L to 0.0478 µg/L. This site had the highest detected concentration of PFOA in water, and also the highest average concentration over the study period. PFDA was detected in one of the two independent samples collected during the third sampling date at sampling location RB_SW05. This PFDA detect was on the LOR of 0.010 µg/L, while the second sample was below the LOR of <0.010 µg/L.

- PFOA was detected in all four rounds of water monitoring at RB_SW04 on the River Brosna, downstream of Lough Ennell, at Cloonagh. The PFOA concentrations detected ranged from 0.0120 µg/L and 0.0160 µg/L. These levels were lower than that detected upstream near Mullingar town.

- PFOS and PFOA were detected at RB_SW03 on the River Brosna in Kilbeggan. PFOA was detected in sediment and water monitoring during all four sampling rounds; in water during rounds 1, 2 and 3 and in sediment in round 4. PFOA was detected between concentrations of 0.0108 – 0.0133 µg/L during the first three round of water sampling and detected in sediment during the final round at a concentration of 0.00429 mg/kg DW. These concentrations of PFOA detected in water are consistent with those found upstream at Cloonagh. PFOS was also detected in sediment during round four of sampling, at a concentration of 0.00437 mg/kg DW.

3.2 LIMITATIONS OF STUDY

The laboratory limit of reporting (LOR) for water analysis used in this campaign on the River Brosna and River Shannon is listed as <0.0100 µg/L for PFOS and PFOA, and <0.010 µg/L for all other PFAS analysed. This method LOR is not sensitive enough to assess the data accurately against the existing Annual Average Environmental Quality Standard (AA-EQS) values set for PFOS in the WFD Directive/EQS Directive, i.e. the LOR of 0.0100 µg/L is over 15 times higher than the AA-EQS inland surface water value of 0.00065 µg/L. The results generated in this study can be compared with the PFOS Maximum Allowable Concentration Environmental Quality Standard (MAC-EQS) value of 36 µg/L, no detects were found to exceed this value during the study.

The laboratory LOR for sediment analysis used in this campaign was 0.000500 mg/kg DW for all PFAS analysis, however no PFAS substances have EQS assigned for the sediment compartment in the EU WFD Directive at present. Therefore, concentrations in sediment could not be directly compared to a legislative EQS value.

A number of detects were on or close to this LOR, however where consistency of detects across all sampling rounds were found in these locations, it was interpreted that these results were accurate.

PFAS were detected at significant values in some equipment field blanks, potentially due to the ubiquitous nature of the substances being assessed. These substances are present in many consumer products and clothing, therefore can be difficult to avoid. This coupled with low limits of detection, potential for cross contamination and measurement uncertainty presented the potential for false positives. Two independent samples were taken at each water monitoring point to assist data assessment. The addition of duplicates was useful for further data assessment and the identification of outliers in the data set.

Samples were collected on four occasions between June 2021 and February 2022. This spread of sampling should capture some seasonal variation, however this also limits the study when comparing to annual average concentrations, such as the WFD AA-EQS values.

4. DISCUSSION

The EPA has a role under the EU POPs regulation through its linked National Implementation Plan on persistent organic pollutants to identify potential POPs hotspots. Following on from the WFD scoping study results collected in 2017/2018, the River Brosna was identified as a potential area of interest and this study was undertaken to increase knowledge on PFAS in the environment.

PFOA was the most commonly detected PFAS in this study, which was detected in four sampling locations along the River Brosna both in water and in sediment. PFOA is persistent in the environment and can travel long distances due to its mobility. PFOA also accumulates in biota and is considered toxic to reproduction[7], therefore further measures should be taken to minimise releases where feasible, such as identification of any potential source(s) and reduction of emissions to the environment, where required based on risk assessments.

Figure 2 River Brosna PFOA Detections. PFOA was detected in three sampling rounds at RB_SW06 and detected in all four sampling rounds at RB_SW05, RB_SW04 and RB_SW03. (Generated with Microsoft PowerBI)

The source of these PFAS is unclear and warrants further studies both upstream and downstream of Mullingar. As PFAS are highly persistent and mobile within the environment the source could be difficult to identify and could potentially be from legacy and/or active sources. Identification of the PFAS source(s) along Lough Owel and the River Brosna should be prioritised to find if preventative measures could be put in place to limit further PFAS discharges to waterbodies in this area.

7 European Chemicals Agency – *PFOA Substance Information*

These PFAS could potentially be present in Lough Owel and Lough Ennell, which were not sampled as part of this study. This conclusion is based on the detects of PFOA downstream of both lakes, as well as information gathered on Lough Owel in 2019 from the EPA WFD monitoring programme. This requires further investigation and follow up as Lough Owel is a drinking water source for the area. Lough Owel and Lough Ennell are also host to recreation water sports and activities. Further monitoring for a limited number of PFAS will continue in the River Brosna region under the EPA's WFD monitoring programme, to inform the status of these substances in this waterbody

PFAS were also detected in sediment samples at sampling location RS_SW08, Carrick-On-Shannon, along the River Shannon, during one round of sampling. This was not found in the duplicate sample, also taken on this day. There is no indication of PFAS detections during other sampling rounds. Sampling locations upstream and downstream of this point were examined from data collected under the WFD monitoring programme, but show low level detects of PFOS and PFOA. As this was the only site on the River Shannon which registered a detect during this study, this may require further investigation when more data in this area becomes available.

5. CONCLUSION

Based on the information gathered in this study and the previous data gathered from WFD monitoring, it appears that there is a potential PFAS hotspot in the River Brosna, based on detects found at sampling points RB_SW06, Greenway, RB_SW05 Joe Dolan Bridge, RB_SW04 Cloonagh and RB_SW03, Kilbeggan. Geographically this represents a region upstream of Mullingar town, County Westmeath, as far downstream as Kilbeggan, County Westmeath as shown in Figure 2. There were no significant detections of PFAS in the areas sampled along the River Shannon and the lower River Brosna, at RB_SW02 and RB_SW01.

PFOA was the most commonly detected PFAS substance during this monitoring campaign, as it was detected through all four rounds of the sampling campaign in the areas surrounding Mullingar town. There is currently no environmental quality standard set under the WFD for PFOA. However, due to the rapid changes in legislation and standards regarding PFAS, the EPA will maintain a watching brief and assess any risks of PFAS in this area through further monitoring under the WFD monitoring programme. For example, the WFD Priority Substance List is currently under review, with 24 PFAS proposed to be added to the list[8], and an agreed EQS for some PFAS is expected in the near future.

8 *Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2000/60/EC establishing a framework for Community action in the field of water policy, Directive 2006/118/EC on the protection of groundwater against pollution and deterioration and Directive 2008/105/EC on environmental quality standards in the field of water policy*

6. ACTIONS TAKEN AND PLANNED

Actions have been carried out based on the findings of this report, to date these include:

- Westmeath County Council have been made aware of this study and an investigation is under way by them into any potential active or legacy PFAS source(s) within the catchment. Areas for investigation and further research include firefighting training sites, industry manufacturing process-sites that have used or still use PFAS (including any historical use of PFOA), discharges to surface water or to sewer, landfills, urban waste water discharges and sewage sludge. Work has been completed and is being finalised on a further monitoring survey and investigations into any potential or legacy PFAS sources in this area. These discussions between the EPA, Local Authorities Waters Programme (LAWPRO), Westmeath County Council, Inland Fisheries Ireland, and Uisce Éireann have been very positive, with suggestions on areas of further study and offers of assistance for this investigation. LAWPRO have taken the lead and coordinated an ongoing investigative campaign, working in collaboration with Westmeath County Council and the EPA.

- The EPA Water Framework Directive programme for 2023 included PFAS monitoring of the River Brosna. Due to the findings of this study, and to aid with further investigations in the area, supplementary points are also being monitored for PFAS around Mullingar town. This will generate additional data at three sites on the River Brosna in Mullingar and one site in Lough Owel. Data collected on PFOS and PFOA from the WFD monitoring programme will be used to maintain a watching brief over this potential hotspot and to inform the investigative plans. This data will be shared with the relevant regulatory bodies and organisations. Consideration should be given to including biota monitoring in the River Brosna region.

- Uisce Éireann have also been made aware of these detects in the River Brosna region, and will investigate any risks to public supplies within this area. Uisce Éireann have responsibilities in relation to provision of public water supplies that cover the monitoring, safety and security of supplies. They will have responsibilities for monitoring drinking water supplies for certain specific PFAS listed under the European Union (Drinking Water) Regulations 2023 (S.I. No 99 of 2023[9]) from January 2026 and for risk assessment of any public drinking water sources in this area. For private drinking water supplies, the Local Authority will have responsibility for risk assessing these sources.

- EPA will map potential PFAS hotspots, such as areas highlighted in this report, fire training sites, industrial sites that use or have used PFOS/PFOA/PFHxS and areas where PFAS has been detected above the general data set under the WFD monitoring programme. This will increase knowledge of potential PFAS sources and PFAS monitoring data across Ireland and will aid with risk assessments and any further investigations into PFAS detections in the future.

- The EPA has added some extra monitoring sites across the country to the WFD Monitoring Programme specifically for PFOS and PFOA. These sites were chosen based on a risk assessment of potential PFAS sources. This additional monitoring will increase knowledge of PFAS around potential pressures across other regions of Ireland.

9 *S.I. No. 99/2023 - European Union (Drinking Water) Regulations 2023*

7. FURTHER INFORMATION

- The existing Environmental Quality Standard (EQS) for PFOS under the Water Framework Directive (WFD) for inland surface waters is as follows: The annual average EQS (AA-EQS) value is 0.00065 µg/L and MAC-EQS value is 36 µg/L.
- There is currently no EQS for PFOA under the WFD, but new proposals for water pollutants that include a wider range of PFAS have been published recently by the European Commission[10].
- The recast EU Drinking Water Directive (EU 2020/2184), implemented in Ireland by S.I. No 99 of 2023, includes limits for total PFAS of 0.5 µg/L and the sum of 20 PFAS of most concern of 0.1 µg/L.
- Water suppliers have responsibilities in relation to provision of public water supplies that cover the safety and security of supplies. There are other key measures in the drinking water regulations that will be relevant in considering PFAS nationally. The regulations require water suppliers to have a risk-based approach to water supply which covers the catchment area, abstraction, treatment, storage and distribution of water (Regulation 9 of S.I. 99 of 2023). This includes a requirement to carry out risk assessment and risk management of catchment areas for abstraction points of water intended for human consumption by July 12, 2027. Guidelines will become available outlining the required coordinated approach for the protection of drinking water. This will include the respective roles, and responsibilities, of the supervisory authorities and Uisce Éireann.
- The EPA Drinking Water Advice Note No.8 contains guidance on hazard identification, risk assessment and the preparation of action plans for the hazards identified. It includes a list of typical hazardous events associated with each element of the supply. The potential hazard from PFAS in the source/ catchment should be considered in this hazard identification.
- For comparison, other regulations and trigger values/limits in place or in draft across different countries at the time of this report, as shown in Table 1 below, may also be useful.

10 *Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2000/60/EC establishing a framework for Community action in the field of water policy, Directive 2006/118/EC on the protection of groundwater against pollution and deterioration and Directive 2008/105/EC on environmental quality standards in the field of water policy*

Table 1 - Trigger Values from Other Countries and upcoming EU Legislation

Substance(s)	Concentration (µg/l unless otherwise stated)	Medium	Source
PFOA ***Comparative value Only**	10	Human health - recreational water	Heads of Environment Protection Authority Australia and New Zealand[11]
	0.56	Drinking water	Heads of Environment Protection Authority Australia and New Zealand[8]
	0.01 – 0.1	Drinking water	UK Drinking Water Inspectorate[12]
	0.0003	Surface water	NL RIVM[13]
	0.000004	Drinking water	US Environmental Protection Agency[14]
Total PFAS	0.5	Drinking water	Directive (EU) 2020/2184 - Drinking Water Directive[15]
Sum of PFAS	0.1	Drinking water	Directive (EU) 2020/2184 - Drinking Water Directive[12]
PFOS	0.00065 (AA-EQS) 36 (MAC-EQS)	Inland surface waters	Directive (EU) 2013/39/EU – Amending WFD 2000/60/EU[16]
	0.00013 (AA-EQS) 7.2 (MAC-EQS)	Other surface waters	
	9.1 µg/kg	EQS Biota	
Per- and poly-fluorinated alkyl substances (PFAS) – sum of 24 **Proposed	Sum of PFOA equivalents 0.0044 (AA-EQS)	Inland Surface Waters and Other Surface Waters	COM(2022) 540 – Proposal for a Directive of the European Parliament and of the Council amending Directive 2000/60/EC establishing a framework for Community action in the field of water policy, Directive 2006/118/EC on the protection of groundwater against pollution and deterioration and Directive 2008/105/EC on environmental quality standards in the field of water policy[17]
	Sum of PFOA equivalents 0.077 µg/kg	EQS Biota	
	0.0044	Groundwater Quality Standard	

11 *PFAS National Environmental Management Plan Version 2.0 January 2020* – National Chemicals Working Group of the Heads of EPAs Australia and New Zealand

12 *Guidance on the Water Supply (Water Quality) Regulations 2016 specific to PFOS and PFOA concentrations in drinking water* United Kingdom Drinking Water Inspectorate (DWI).

13 *Risk limits for PFAS in surface water. Translation of the health-based limit value of EFSA into concentrations in water* – Netherland RIVM

14 United States Environmental Protection Agency (USEPA). 2022. *Drinking Water Health Advisory for PFOS*.

15 *Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (recast)*

16 *Directive 2013/39/EU of the European Parliament and of the Council of 12 August 2013 amending Directives 2000/60/EC and 2008/105/EC as regards priority substances in the field of water policy*

17 *Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2000/60/EC establishing a framework for Community action in the field of water policy, Directive 2006/118/EC on the protection of groundwater against pollution and deterioration and Directive 2008/105/EC on environmental quality standards in the field of water policy*

- The EPA reports and guidance on PFAS in the table below provide further information.

Table 2 - EPA Reports and Guidance on PFAS

EPA Report	Link
Determining Historic and Current PFAS Levels in AFFF in the Republic of Ireland	*Monitoring & Assessment: Waste Publications | Environmental Protection Agency (epa.ie)*
Persistent Organic Pollutants, Landfill Leachate Sampling Study	*Monitoring & Assessment: Waste Publications | Environmental Protection Agency (epa.ie)*
Monitoring for per- and poly-fluoroalkyl substances and brominated flame retardants at fire training sites	*Monitoring & Assessment: Waste Publications | Environmental Protection Agency (epa.ie)*
The Changing Nature of Fire-Fighting Foams - Guidance Booklet	*Monitoring & Assessment: Waste Publications | Environmental Protection Agency (epa.ie)*
PFOA EPA Factsheet - Guidance leaflet on PFOA in fire-fighting foams	*Monitoring & Assessment: Waste Publications | Environmental Protection Agency (epa.ie)*
EPA Research Report 343: Elucidating Levels and Pathways of Human Exposure in Ireland to Brominated Flame Retardants and Perfluoroalkyl Substances (ELEVATE)	*Environment & Health | Environmental Protection Agency (epa.ie)*
EPA Research Report 345: Furthering Understanding of Emissions from Landfilled Waste Containing POPBFRs and PFASs (FUEL)	*Environment & Health | Environmental Protection Agency (epa.ie)*
The EPA Drinking Water Advice Note No.8	*Advice & Guidance | Environmental Protection Agency (epa.ie)*
Water Quality in Ireland 2016 – 2021 Chapter 5 Chemical Status of Surface Water.	*Monitoring & Assessment: Freshwater & Marine Publications | Environmental Protection Agency (epa.ie)* Data sets are available on *Catchments.ie - Water, from source to sea.*

Table 3 - Further Guidance on PFAS

Topic	Link
HSE Interim Position Paper Per- and Poly-Fluoroalkyl substances (PFAS) in Drinking Water (December 2022)	*https://www.hse.ie/eng/services/list/1/environ/water/interim-position-paper-on-pfas-in-drinking-water.pdf*
HSE National Drinking Water Group (Dec 2022) Interim FAQs - PFAS in Drinking Water - Frequently Asked Questions (FAQs)	*https://www.hse.ie/eng/services/list/1/environ/water/faqs-on-pfas-in-drinking-water.pdf*

APPENDIX A DETECTION TABLES

Tables within this Appendix contain details of detections from this campaign, the results from the whole campaign, including non-detections data are available in Appendix B.

River Shannon Detections									
Sampling Location Code	EPA Reference	Sampling Round	Sample Date	Matrix	Parameter	LOR (limit of reporting)	Unit	Result	Measure of Uncertainty
RS_SW08	R26S020800	Q3	23/11/21	Sediment	PFHxS	0.000500	mg/kg DW	0.000502	± 30.0 %
RS_SW08	R26S020800	Q3	23/11/21	Sediment	PFOS	0.000500	mg/kg DW	0.0100	± 30.0 %

River Brosna Detections									
Sampling Location Code	EPA Reference	Sampling Round	Sample Date	Matrix	Parameter	LOR (limit of reporting)	Unit	Result	Measure of Uncertainty
RB_SW06	RS25B280380	Q2	26/08/21	Sediment	PFOA	0.000500	mg/kg DW	0.0269	± 30.0 %
RB_SW06	RS25B280380	Q3	25/11/21	Sediment	PFOA	0.000500	mg/kg DW	0.00175	± 30.0 %
RB_SW06	RS25B280380	Q3	25/11/21	Sediment	PFOA	0.000500	mg/kg DW	0.000796	± 30.0 %
RB_SW06	RS25B280380	Q4	24/02/22	Sediment	PFOA	0.000500	mg/kg DW	0.00269	± 30.0 %
RB_SW05	Non-EPA WFD location	Q1	10/06/21	Surface Water	PFOA	0.0100	µg/L	0.0346	± 30.0 %
RB_QC201 @ RB_SW05 (Duplicate)	Non-EPA WFD location – Joe Dolan Bridge	Q1	10/06/21	Water	PFOA	0.0100	µg/L	0.0315	± 30.0 %
RB_SW05	Non-EPA WFD location	Q2	27/08/21	Surface Water	PFOA	0.0100	µg/L	0.0354	± 30.0 %
RB_SW05	Non-EPA WFD location	Q3	25/11/21	Surface Water	PFDA	0.010	µg/L	0.010	± 40.0 %

River Brosna Detections									
Sampling Location Code	EPA Reference	Sampling Round	Sample Date	Matrix	Parameter	LOR (limit of reporting)	Unit	Result	Measure of Uncertainty
RB_SW05	Non-EPA WFD location	Q3	25/11/21	Surface Water	PFOA	0.0100	µg/L	0.0340	± 30.0 %
RB_SW05	Non-EPA WFD location	Q3	25/11/21	Surface Water	PFOA	0.0100	µg/L	0.0258	± 30.0 %
RB_SW05	Non-EPA WFD location	Q4	24/02/22	Surface Water	PFOA	0.0100	µg/L	0.0478	± 30.0 %
RB_SW05	Non-EPA WFD location	Q4	24/02/22	Surface Water	PFOA	0.0100	µg/L	0.0440	± 30.0 %
RB_SW04	RS25B090200	Q1	09/06/21	Surface Water	PFOA	0.0100	µg/L	0.0145	± 30.0 %
RB_SW04	RS25B090200	Q2	26/08/21	Surface Water	PFOA	0.0100	µg/L	0.0160	± 30.0 %
RB_SW04	RS25B090200	Q3	25/11/21	Surface Water	PFOA	0.0100	µg/L	0.0131	± 30.0 %
RB_SW04	RS25B090200	Q3	25/11/21	Surface Water	PFOA	0.0100	µg/L	0.0126	± 30.0 %
RB_SW04	RS25B090200	Q4	22/02/22	Surface Water	PFOA	0.0100	µg/L	0.0124	± 30.0 %
RB_SW04	RS25B090200	Q4	24/02/22	Surface Water	PFOA	0.0100	µg/L	0.0120	± 30.0 %
RB_SW03	RS25B090400	Q1	09/06/21	Surface Water	PFOA	0.0100	µg/L	0.0111	± 30.0 %
RB_SW03	RS25B090400	Q2	26/08/21	Surface Water	PFOA	0.0100	µg/L	0.0119	± 30.0 %
RB_SW03	RS25B090400	Q2	26/08/21	Surface Water	PFOA	0.0100	µg/L	0.0133	± 30.0 %
RB_SW03	RS25B090400	Q3	24/11/21	Surface Water	PFOA	0.0100	µg/L	0.0108	± 30.0 %
QC201 @ RB_SW03 (Duplicate)	RS25B090400	Q3	24/11/21	Water	PFOA	0.0100	µg/L	0.0131	± 30.0 %
RB_SW03	RS25B090400	Q4	23/02/22	Sediment	PFOS	0.000500	mg/kg DW	0.00437	± 30.0 %
RB_SW03	RS25B090400	Q4	23/02/22	Sediment	PFOA	0.000500	mg/kg DW	0.00429	± 30.0 %

Quality Assurance/ Quality Control Rinsate Detects									
Sampling Location Code	EPA Reference	Sampling Round	Sample Date	Matrix	Parameter	LOR (limit of reporting)	Unit	Result	Measure of Uncertainty
QC101 RS_ SW05	RS26S021800	Q1	09/06/21	Van Veen Sampler - DI Water	6:2 FTS	0.010	µg/L	0.011	± 40.0 %
QC101 RS_SW01	LS250155b04500180	Q2	26/08/21	Bailer - DI water	PFOS	0.0100	µg/L	0.0184	± 30.0 %
QC101 RS_SW04	RS26S021900	Q3	23/11/21	Bailer - DI Water	PFOS	0.0100	µg/L	0.0332	± 30.0 %

APPENDIX B AECOM REPORT

AECOM

2021 - 2022 Monitoring Report

Procurement and Processing of Environmental Samples for PFAS and Pesticide Analysis along River Shannon & River Brosna

Environmental Protection Agency

Project reference: SPCP-2018-02-1-L1#09
Project number: 60659529

03 May 2022

Delivering a better world

Quality information

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The opinions expressed in this Report concerning any contamination found and the risks arising there from are based on current good practice simple statistical assessment and comparison with available soil guideline values, AECOM generic assessment criteria and other guidance values.

It should be noted that the effects of ground and water borne contamination on the environment are constantly under review, and authoritative guidance values are potentially subject to change. The conclusions presented herein are based on the guidance values available at the time this Report was prepared, however, no liability by AECOM can be accepted for the retrospective effects of any changes or amendments to these values.

Unless otherwise stated in this Report, the assessments made assume that the sites and facilities will continue to be used for their current purpose without significant changes.

Where assessments of works or costs identified in this Report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

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Executive Summary

The Environmental Protection Agency (EPA) engaged AECOM Ireland Limited (AECOM) under the EPA Framework Agreement SPCP-2018-02-01 established in 2018 to provide support services to the Substance Reporting Unit of the EPA.

In March 2021, the EPA issued a request for quotation (RQF) (Reference Number SPCP-2018-02-1-L1#09) under the Framework to undertake procurement and processing of environmental samples for analysis of per- and poly-fluoroalkyl substances (PFAS) and pesticides from surface water and sediments samples within the River Shannon and River Brosna.

AECOM understands the EPA's ulitmate objective is to provide the EPA with a high-level understanding of the potential risks associated with PFAS and certain pesticides to two waterbodies, namely the River Shannon and River Brosna. To better understand the associated potential environmental impacts of these chemicals, the EPA engaged AECOM for the procurement and processing of various sample media (surface water and sediment) from both the River Shannon and River Brosna, with the primary project focus on PFAS.

The sites selected along the River Shannon were:

- Site 01 – Killaloe Bridge
- Site 02 – Portumna Bridge
- Site 03 – Bridge at Banagher Park (down stream of Banagher & River Brosna confluence)
- Site 04 – Shannonbridge (upstream of Banagher & River Brosna confluence)
- Site 05 – Clonmacnoise Castle
- Site 06 – N6 Bridge
- Site 07 – Lanesborough Bridge
- Site 08 – N4 Bridge (Carrick-on-Shannon)
- Site 09 – Dowra ED (Cavan-Belturbet Muncipal District – near source of Shannon)

The sites selected along the River Brosna were:

- Site 01 – R357 (Closest to Shannon Harbour)
- Site 02 – Pollagh
- Site 03 – Kilbeggan
- Site 04 – Clonnagh
- Site 05 – Joe Dolan Bridge on R394 (downstream of Mullingar)
- Site 06 – Greenway / Cullion Fish Farm (upsteam of Mullingar)

In summary:

- 26 sediment samples were collected and submitted for laboratory analysis, of which:
  - 17 were primary samples; and
  - 9 were duplicate samples.
- 182 surface water samples were collect and submitted for laboratory analysis, of which:
  - Two independent PFAS samples per site for Q2 – Q4.
  - One independent PFAS sample per site for Q1.
  - One pesticide sample per site for Q1 – Q4.
  - 8 were duplicate samples; and
  - 12 equipment rinsate samples
- A comparative analysis of sample results across the 15 sites was undertaken and presented in Section 5 of this report.

To assess the risk to human health and/or the environment from these POPs, AECOM recommends the following additional works are considered:

- Despite not exceeding available screening criteria, further investigation along the River Brosna upstream of Mullingar (near SW06) and downstream of Mullingar (near SW03, SW04 and SW05) would be required to identifythe potential source of the PFOA and PFDA contamination and determine whether potential risk to human health and environment exists.
- AECOM considers further surface water and sediment assessment within the River Shannon close to the sediment detection (RS_SW08) is necessary to assess the significance of this reported detection.
- Screening criteria for pesticides and PFAS are under regular development and review, as such consideration of these concentrations against newly-released criteria should be re-assessed on a 12 month basis and / or as they are developed.

Table of Contents

Tables

1. Introduction

The Environmental Protection Agency (EPA) engaged AECOM Ireland Limited (AECOM) under the EPA Framework Agreement SPCP-2018-02-01 established in 2018 to provide support services to the Substance Reporting Unit of the EPA.

In March 2021, the EPA issued a request for quotation (RFQ) (Reference Number SPCP-2018-02-1-L1#09) under the Framework to undertake procurement and processing of environmental samples along the River Shannon and River Brosna for the analysis of range of hazardous substances which include:

- Per- and poly-fluoroalkylated substances (PFAS).
- Acidic herbicides.
- Pesticides.

This report has been prepared in accordance with:

- AECOM proposal PR-26808_ACM_PL_ENV_001_0, dated 13 April 2021.
- AECOM Sampling Analysis and Quality Plan (SAP), 60659529_ACM_RP_ENV_001_01 (SAQP), dated 20 May 2021.

1.1 Background and Project Understanding

PFAS is an abbreviation for per- and poly- fluoroalkylated substances some of which are manufactured chemicals widely used in industry and the environment for over 50 years. Common PFAS products included non-stick coatings, water repellent and fire-, weather- and stain-resistant treatments for materials such as carpets, clothes, paper and fighting foam.

Based on information from the project kick-off meeting on Thursday 13 May 2021, AECOM understands that the EPA completed surface water monitoring within the River Brosna in 2020 and recorded PFOA contaminants as being present on a number of sampling occasions. PFOS and PFOA and related substances have been listed as persistent organic pollutants (POPs) in 2009 and 2019, respectively, with a recommendation for phasing them out under the Stockholm Convention.

1.2 Objectives

The overall objective of the assessment is to provide the EPA with a high-level understanding of the potential presence of PFAS and certain pesticides along the River Shannon and River Brosna.

To better understand the associated environmental impacts of these chemicals, the procurement and processing of various sample media (surface water and sediment) was undertaken. The primary focus is on PFAS contamination for the purposes of this project. Prior to undertaking the procurement of samples, the EPA requested a SAP be prepared, as detailed herein.

1.3 Scope of Works

The following scope of works were completed:

- Preparation of Sampling Analysis and Quality Plan (SAQP), including:
  - Desktop review of publicly available and EPA-provided information to inform the subsequent selection of nine suitable sampling sites on the River Shannon and six suitable sampling sites on the River Brosna.
  - Outlined proposed fieldwork tasks, sampling and analysis methodologies.
  - Defined data assessment and investigation criteria selection.
  - Outlined the structure of final report to be submitted to the EPA.
- Field works:
  - Preliminary site discussion to ensure samples are collected in accordance with proposed sampling rationale following desktop review.
  - Collection of samples and submission to EPA approved laboratory.
- Preparation of this report.

2. Preliminary Works

2.1 Health, Safety and Environment Plan

An AECOM Safety, Health and Environment (SHE) Plan was prepared prior to commencement of AECOM works on site which describe the safety, health and environmental requirements for AECOM project personnel involved in the works.

The SHE Plan included key project responsibilities, standard safe working practices, general physical and chemical hazards, a detail hazard risk assessment, requirements for personal protective equipment (PPE), environmental management, decontamination procedures, waste management, management of change and considerations and emergency response plans. In addition, AECOM implemented COVID-19 specific controls in line with AECOM internal requirements and national guidance, including:

- Completion of AECOM COVID-19 sitework questionnaires and the Construction Industry Federation's (CIF) COVID-19 induction.
- Application of good hygiene practices.
- Application of social distancing, and where unable to be achieved a risk assessment and project-specific controls to have been adopted.

As samples were collected at waterways, AECOM's safety protocols required deployment of a two-person sampling team equipped with lifejackets. The AECOM field lead and the field assistant had the appropriate AECOM PFAS sampling and health and safety training.

2.2 Site Access

Site access across the 15 sample locations was arranged by AECOM to allow for safe access to sample locations prior to attending each of the sites. Site access arrangements were detailed within the AECOM SHE plan.

3. Sampling Locations and Methodology

The sampling program was completed in general accordance with the EPA-approved AECOM SAQP and field procedures, as summarised below.

3.1 Sample Locations and Rationale

Prior to undertaking sampling, AECOM undertook a site selection process as part of the SAQP. Suitable sampling points were identified at nine locations on the River Shannon and six locations on the River Brosna and were chosen to correspond to existing National Water Monitoring Stations, where possible. Sampling locations are presented in Figure 1, Appendix A. The specific site locations for the River Shannon and River Brosna are included in Tables 1 and 2 below.

Table 1. River Shannon Sample Locations

River Section	Sample Point ID	EPA Sampling Point Reference	Sample Location	Coordinates (ITM)	
Lower Section	RS_SW01	LS250155b04500180	Killaloe Bridge	633138	735541
	RS_SW02	RS25S012310	Portumna Bridge	587008	704525
	RS_SW03	RS25S012000	Bridge at Banagher Park (downstream of Banagher & River Brosna confluence)	600479	715902
Mid-Section	RS_SW04	RS26S021900	Shannonbridge (upstream of Banagher & River Brosna confluence)	596622	725478
	RS_SW05	RS26S021800	Clonmacnoise Castle	600681	730712
	RS_SW06	Non-EPA Location	N6 Bridge	602949	742475
Upper Section	RS_SW07	RS26S021600	Lanesborough Bridge	600503	769382
	RS_SW08	RS26S020800	N4 Bridge, Carrick-on-Shannon	593704	799299
	RS_SW09	RS26S020200	Dowra ED, Cavan-Belturbet Municipal District (near source of Shannon)	602056	828934

Table 2. River Brosna Sample Locations

River Section	Sample Point ID	EPA Sampling Point Reference	Sample Location	Coordinates (ITM)	
Lower Section	RB_SW01	RS25B091100	R357 (Closest to Shannon Harbour)	604721	720919
	RB_SW02	RS25B090761	Pollagh	618948	725732
Mid-Section	RB_SW03	RS25B090400	Kilbeggan	633138	735542
	RB_SW04	RS25B090200	Clonnagh	638267	742344
Upper Section	RB_SW05	Non-EPA Location	Joe Dolan Bridge on R394 (downstream of Mullingar)	642769	751345
	RB_SW06	RS25B280380	Greenway/Cullion Fish Farm (upstream of Mullingar)	642853	755776

Table 3 details the sampling areas along the river and subsequent analysis. AECOM proposed to collect 15 primary water samples, 4 primary sediment sample and 3 quality control water samples (22 samples per round).

Table 3. Surface Water Monitoring Programme

River	River Shannon			River Brosna			Total Samples Analysed
Section of River	Upper	Mid-section	Lower	Upper	Mid-section	Lower	
Site ID within Section of River	RS_SW09 – RS_SW07	RS_SW06 – RS_SW04	RS_SW03 – RS_SW01	RB_SW06 – RB_SW05	RB_SW04 – RB_SW03	RB_SW02 – RB_SW01	
Surface Water (SW) samples submitted for PFAS analysis per quarter	6	6	6	4	4	4	100*
SW samples submitted for Pesticides analysis per quarter	3	3	3	2	2	2	62**
Sediment samples submitted for PFAS analysis (where feasible) per quarter	2	2	-	1	1	-	26
Rinsate Sample	2 rinsate samples per round (one per reusable sampling equipment, with one tap water in the first round)						8
Duplicate Sample	1 duplicate surface water sample per river per round						8

* Numbers differ from proposed SW total samples scheduled for PFAS analysis due to following reasons:
- RS_SW05 could not be sampled during Q4 due to the jetty at Clonmacnoise Castle being inaccessible due to flooding.
- No second independent sample were analysed for RB_SW04 – RB_SW06 during Q2 (August 2021).
- No second independent samples were analysed for all sample locations during Q1 (June 2021).

** Numbers differ from proposed SW total samples scheduled for Pesticide analysis due to following reasons:
- RS_SW05 could not be sampled during Q4 due to the jetty at Clonmacnoise Castle being inaccessible due to flooding.
- A full suite of pesticide analysis was not undertaken on RS_SW09 as the laboratory container was broken by the laboratory handler.

Source: 60659529_ACM_RP_ENV_001_01_(SAQP)

Prior to undertaking site work AECOM gathered information on site routes to each of the sites, including car parking locations and proximity to sampling points.

Samples were named with a standard site identification code and followed by the site assigned monitoring name, i.e., RS_SW01 (River Shannon_SurfaceWater01), RS_SS01 (River Shannon_SedimentSample01). The same convention was followed for the River Brosna using 'RB' as the acronym.

Equipment blank samples were assigned a quality control (QC) nomenclature, i.e., QC101, QC102. Duplicate laboratory samples were assigned a quality control (QC) nomenclature, i.e., RS_QC201, RB_QC201.

3.2 Field Work Methodology

3.2.1 Surface Water Sampling

The methodology used for surface water sampling was as follows:

1. Surface water samples taken using an HDPE bailer suspended on a rope. A new piece of rope and bailer used for each sampling point.
2. Samples collected from mid-stream at mid-depth, if safe and practicable, by lowering a sampling container on a line.
3. A clean pair of nitrile gloves used for each environmental medium at each sampling location.
4. No re-usable sampling equipment was used for surface water sampling therefore no equipment decontamination was required.

5. Sampling location GPS co-ordinates were captured onsite using a field data collection application (ArcGIS Collector / Survey123), along with field observations, river observations (turbidity and flow rate) and corresponding photographs.
6. Samples were kept in ice cooled cool boxes and transported to the ALS laboratory drop-off location in Portlaoise under chain-of-custody procedures. Owing to AECOM standard procedures for PFAS sampling, bags of water ice were used for sample storage, rather than the laboratory-provided blue (or chemical) ice for sample storage.

3.2.2 Sediment Sampling

Sediment samples were collected where it was safely possible to do so at one location within the upper and middle sections of both the River Shannon and River Brosna.

The selection of the appropriate sediment sampling locations depended on several factors including the safety and accessibility of the sample locations; whether there was a requirement for relatively undisturbed samples and the required sample depth within the sediment body.

Where applicable, the collection of sediment samples took place immediately following surface water sampling, to avoid incorporation of disturbed sediment into water samples. The sediment samples were collected from the same locations as the surface water samples.

The sediment sampling used a grab system (Van Veen Grab (0.5L), consisting of one hinged clamshell bucket which is lowered to the river bed and which closes when raised, collecting disturbed sediment samples. The benefits of the grab system are that it is useful for waterbodies where access is limited and where the water body is too deep for manual sediment sampling methods, which is the case for the River Shannon and River Brosna.

Re-usable sampling equipment, such as the sediment grab sampler, was decontaminated between locations by rinsing with potable water, brushing with a solution of PFAS-free detergent and water, followed by a final rinse with laboratory-supplied deionised water.

3.2.3 Equipment Blank / Duplicate Sampling

Two equipment blanks had been allowed per river per sample round. AECOM collected one equipment blank for each piece of equipment which came in direct contact with the surface water (bailer and rope) and one for the equipment used to collect the riverbed sediment (Van Veen sampler and rope). AECOM considered this to be sufficient to establish the risk of cross-contamination for the project as a whole. The same source of potable water and laboratory water was used throughout the duration of the project.

4. Field Results

4.1 Field Work Summary

Field works were carried out over four sampling events (Q1 to Q4), as follows:

- Quarter 1 (Q1), 08 June 2021 – 10 June 2021.
- Q2, 25 August 2021 to 27 August 2021.
- Q3, 23 November 2021 to 25 November 2021.
- Q4, 22 February 2022 to 24 February 2022.

Sampling locations are presented in Figure 1, Appendix A. Sample schedules and field observations are presented in Tables 1a and 1b and 2, Appendix C. A photographic log showing the sampling locations is presented in Appendix B.

All sampling locations were accessible for all four sampling events with the exception of:

- RS_SW05 – a floating jetty- during Q4, due to high water levels and unsafe access due to recent heavy rainfall on the River Shannon, see photograph 16, Appendix B
- RS_SS03 was collected as an additional sediment sample during Q1 due to concerns over the possible quality of the sample taken at a previous location (RS_SS02). However, the sample from RS_SS02 proved suitable for laboratory analysis. Therefore, during Q2, Q3 and Q4 it was not deemed necessary to collect a third sediment sample from the River Shannon.

4.2 Surface Water Quality – Field Readings

During surface water sampling of each location, surface water field measurements were collected during sampling. The following is a summary of surface water monitoring field results which are included in Table 2 of Appendix C.

- pH values were generally neutral to slightly alkaline and were recorded between 7.4 and 8.5.
- Actual conductivity values varied between 105.8 µS/cm and 672 µS/cm.
- Temperature values varied between 6.1 ^{o}C and 19.8 ^{o}C.
- Field redox values varied between 61.6 mV and 216.3 mV.
- Dissolved Oxygen (DO) concentration varied between 4.52 mg/L and 12.42 mg/L.

5. Analytical Results

5.1 Screening Criteria

Laboratory results were screened against generic assessment criteria (GAC) considered for human health and ecological exposure for industrial / commercial and public open space / parkland land use settings. Residential land use GAC has not been considered.

AECOM emphasises adopted screening criteria are not intended for use as a default remediation trigger criterion, rather are intended as a preliminary screen for considering for further assessment.

A summary of the adopted screening criteria is detailed below.

5.1.1 PFAS Screening Criteria

Water

AECOM reviewed available screening criteria for human health and environmental systems for PFAS compounds in water.

Based on the site selection, dermal contact is considered to be the most representative human health exposure pathway. However, due to rural drinking water supplies commonly being abstracted from groundwater and river systems, AECOM also considered drinking water guidance.

No national guidance for water human health screening criteria was identified in Ireland. A review of international guidance identified available and verified water human health and/or recreational water use screening criteria for the United Kingdom, United States, Canada, Denmark, Germany, Italy, Netherlands, Sweden and Australia.

Based on the available land use scenarios, and the limited screening criteria available for PFAS contaminants due to its presence as an emerging contaminant, AECOM adopted the United Kingdom, Australian and USEPA criteria, utilising the below guidance:

- United Kingdom Drinking Water Inspectorate (DWI). Guidance on the Water Supply (Water Quality) Regulations 2016 specific to PFOS and PFOA concentrations in drinking water. January 2021.
- United Kingdom DWI. Guardians of drinking water quality. 2009. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. October 2009.

- United States Environmental Protection Agency (USEPA). 2016. Drinking Water Health Advisory for PFOS. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016.
- Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020.

National guidance for environmental quality to surface water is available for PFOS in the following guidance:

- The European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77, as amended in 2019).

The laboratory Limit Of Reporting (LOR) presented are considered suitable to enable the assessment of the data against the environmental quality standard (EQS) for the maximum allowable concentration (MAC) for surface water, however, is not considered sensitive enough for assessing the annual average concentration (AAC) criteria.

Sediment

A review of national and international available guidance did not identify screening criteria for sediment samples. In the absence of published and verified screening criteria, AECOM will utilise available soil criteria.

No national guidance for soil human health screening criteria for PFAS-related compounds was identified in Ireland or the United Kingdom. A review of international guidance identified available and verified soil human health screening criteria for the United States (national and state level), Australia, Canada, Denmark and Norway.

In terms of human health, AECOM adopted Australian and USEPA criteria utilising the below guidance:

- United States Environmental Protection Agency (USEPA). 2020. Regional Screening Levels (RSLs). RSL User's Guide, and RSLs Calculator, May 2020.
- Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020.
- No national guidance for soil ecological screening criteria was identified in Ireland. A review of international guidance identified available and verified soil ecological screening criteria in the United Kingdom (UK) and Australia.

In terms of ecological / environmental criteria, AECOM adopted the UK criteria utilising the below guidance:

- Environment Agency, Derivation and use of soil screening values for assessing ecological risks, report – ShARE id26 (revised), March 2020.

5.1.2 Pesticide Screening Criteria

AECOM could only obtain EQS screening criteria for the one of the two pesticides identified above the laboratory method detection limits (MDLs). Assessment criteria for 2-methyl-4-chlorophenoxyaceic acid (MCPA) was available; however, no screening criteria was available for Imazalil. Based on the setting of the watercourses (freshwater) and the potential receptors of drinking water in rural areas with groundwater wells, AECOM adopted the Ireland and Scotland criteria, utilising the below guidance:

- Guideline Threshold Value (GTV) – Ireland - Source: *Ireland GTVs 2016.*
- Aquatic Toxicity – Ireland – Freshwater - Source: *SEPA WAT-SG-53 Freshwater EQS – AA – 2015.*
- Aquatic Toxicity – Ireland – Transitional/Coastal – Source: *SEPA WAT-SG-53 Marine EQS – AA – 2015.*
- Drinking Water Standards – Ireland – Source: *Ireland GTVs 2016.*

It was not considered necessary to screen the rest of the pesticide data against screening criteria as all other pesticide analytes were below laboratory MDL.

5.2 Laboratory Analysis

Samples were sent to the EPA-selected contract laboratory ALS Life Sciences Ireland (ALS) for analysis.

All samples were analysed as agreed by the EPA, including the analysis of each PFAS sample in duplicate, with the exception of the following:

- All results from Q1 surface water and sediment samples.
- Sediment samples in Q4 were collected at different locations to previous rounds, due to difficulties with access to certain locations.
- RB_SW05 and RB_SW06 in Q2, the laboratory analysed these samples in duplicate for pesticides instead of PFAS compounds.
- Organochlorine Pesticides results for Q4 RS_SW09 as the laboratory confirmed they had accidentally broken the sample container.

5.3 Laboratory Results

Laboratory results screened against the adopted screening criteria are presented in Tables 3, 4 and 5 in Appendix C. Laboratory Certificates are presented in Appendix D.

The analytical results above the laboratory MDL presented in Figures 2, 3 and 4 in Appendix A.

The following is a summary of the results:

Surface Water Sample Results

- No PFAS compounds were reported at any of the 9 surface water sampling locations on the River Shannon.
- Perfluorodecanoic acid (PFDA) was detected at one surface water sampling location on the River Brosna (RB_SW05) on one occasion – during the third quarter sampling (November 2021). The second independent sample collected from this location during this sampling event did not detect PFDA. No screening criteria is availale for PFDA to review the PFDA results against.
- Perfluorooctanoic acid (PFOA) was detected at 3 of the 6 surface water sampling locations on the River Brosna (RB_SW03, RB_SW04, RB_SW05). These three sampling locations are located downstream of Mullingar. PFOA was detected on all four sampling occasions at sample locations RB_SW04 and RB_SW05 and only during 3 of the 4 sampling occasions (Q1 – Q3) at sample location RB_SW03. The PFOA results exceeded drinking water standards for Tier 2 regulations (0.01 µg/L).
- All pesticide concentrations were below the laboratory MDL, with the exception of the following 3 detections:
    - Imazalil reported in RB_SW06 (upstream of Mullingar) in Q3 (November 2021) only. The detection was recorded as 0.104 µg/L and the MDL for Imazalil is <0.050 µg/L.
    - MCPA reported in RS_SW07 (Lanesborough) in Q1 (June 2021) only. The detection was recorded as 0.062 µg/L and was below all water environment and drinking water assessment criteria.
    - MCPA reported in RS_SW08 (Carrick-on-Shannon) in Q1 (June 2021) only. The detection was recorded as 0.065 µg/L and was below all water environment and drinking water assessment criteria.
- No screening criteria was available for Imazalil and both detected results for MCPA (RS_SW07 and RS_SW08) were below the adopted screening criterion.

Sediment Sample Results

- In the River Shannon, PFAS compounds (Perfluorohexane sulfonic acid (PFHxS) and Perfluoroctane sulfonic acid (PFOS)) were detected in the sediment sample collected during Q3 (November 2021) at RS_SW08 (Carrick-on-Shannon). All other sediment samples collected from the River Shannon recorded no detections for PFAS compounds.

- In the River Brosna, PFAS compounds were detected at two locations:
    - RB_SW06 (upstream of Mullingar) recorded detection of PFOA on three occasions during sampling rounds Q2 – Q4. The sediment sample from Q2 recorded a PFOA result in exceedance of ecological screening criteria and below human health criteria. The PFOA reslts at RB_SW06 from Q3 and Q4 were recorded below both human health and ecological screening criteria.
    - RB_SW03 (downstream of Mullingar) recorded detection of PFOA and PFOS during Q4 (February 2022) only. The detected results from Q4 were below both human health and ecological screening criteria.

6. Quality Assurance and Quality Control

The Quality Assurance and Quality Control (QA/QC) procedures adopted by AECOM provide a consistent approach to evaluation of whether the data quality of the project is acceptable. The QA/QC procedure focuses on the assessment of the usability of data in terms of accuracy and reliability in forming conclusion on the environmental medium being investigated.

Equipment Rinsate QC Results

AECOM collected equipment rinsate samples from re-usable equipment (Van-Veen sediment sampler) and from the primary surface water sampling equipment (bailer and string). A new bailer and section of string was used at every sampling location on every sampling occasion to prevent cross-contamination occurring during the sampling round.

During Q2 (August 2021) and Q3 (November 2021) sampling rounds, on each sampling occasion, one of the two independent samples for the bailers recorded a detection of PFOS. During the Q2 sampling round the detection was recorded as 0.0184 µg/L and during the Q3 sampling round the detection was recorded as 0.0332 µg/L. The other independent sample collected on each of these two occasions did not record any detection of PFOS.

A rinsate sample of the Van Veen sediment sampler recorded one detection of 6:2 Fluorotelomer sulfonic acid (6:2 FTS) during Q1 (June 2021). No detections of PFAS compounds were recorded on equipment rinsate samples during the Q2 and Q4 sampling rounds and no rinsate equipment sample was taken for the Van-Veen sediment sampler during Q3.

Neither PFOS nor 6:2 FTS were reported in any river water sample results.

River Duplicate QC Results

All duplicate and independent samples collected from the River Shannon recorded no detection of PFAS compounds.

In the River Brosna, PFOA was recorded at RB_SW05 with a concentration of 0.0346 µg/L during Q1 (June 2021) and the duplicate sample from this sampling location on this sampling occasion recorded a concentration of 0.0315 µg/L producing a relative percent difference (RPD) of 9.38% which is considered to be acceptable. In addition, PFOA was recorded at RB_SW03 with a concentration of 0.0131 µg/L during Q3 (November 2021) and the duplicate sample from this sampling location on this sampling occasion recorded a concentration of 0.0108 producing a RPD of -19.25% which is also considered to be acceptable.

Based on the assessment, AECOM considers the data representative of chemical concentrations in the environmental media at the time of sampling and to be suitable for their intended purpose of forming conclusions.

7. Difficulties Encountered

AECOM encountered the following difficulties during the sampling campaign:

- Sampling difficulties:
  - Undertaking representative surface water quality readings was difficult at sample locations Brosna Site 01 and Brosna Site 05. The reason for this is that the high bridges meant that the distance from the bridge to the river was much longer than the length of cable on the AECOM water quality meter. Surface water quality readings were instead taken from a bucket of water retrieved using the bailer and are not considered representative to the river conditions.
  - Sediment sampling was the most difficult and time-consuming part of the sampling process, as often the base of the river was not visible and therefore numerous attempts were required before collecting a suitable volume of river sediment sample.
  - As discussed in Section 4, it was not possible to collect a sample from River Shannon Site 05 (Clonmacnoise jetty) in Q4. The Clonmacnoise jetty was shut to the public on the date of the sampling visit due to the high-water levels in the river. It was not possible to substitute a potential alternative location in the vicinity, as there were no bridges within the local area and access to third-party land on the river bank had not been previously arranged.
- Laboratory difficulties:
  - Sampling containers were shipped to AECOM's Dun Laoghaire office from the ALS European branch which was accredited for the proposed analyses; these took 2 – 3 weeks to arrive.
  - The sampling containers were not labelled with laboratory stickers and permanent marker would rub off the glass jar.
  - The laboratory did not supply any packing materials (i.e. bubble wrap, etc.) to minimise potential for potential breakage of glass jars.
  - The laboratory-supplied blue 'chemical ice' bricks for chilling samples. Internal AECOM procedures do not recommend using blue ice bricks, as some types are proven to have historically contained PFAS. AECOM procedures require use of wet ice (water ice) as an alternative.
  - Additionally, the laboratory provided only waterproof soft cooler bags to transport the samples to the ALS shipment location in Ireland. Samples included glass containers and rigid plastic cooler boxes would be the preferred shipment container, due to a lower risk of physical damage to sample containers during local antransit and a risk that waterproof fabric could be treated with water proofing sprays/coatings which may contain PFAS. Alternatively, a trip blank should be considered to assess the potential cross contamination risk during transport.
  - Sample results were presented in a combination of Excel spreadsheets and PDFs. It would be preferred if the laboratory supplied results in Esdat format (formatted csv file) or entirely in Excel format, to minimise manual handling of data from PDFs and the potential for transcription errors.
  - The sensitive nature of the laboratory analytical methods, low limits of detection, potential for cross-contamination and measurement uncertainty could potentially lead to false positives at the low concentrations reported.

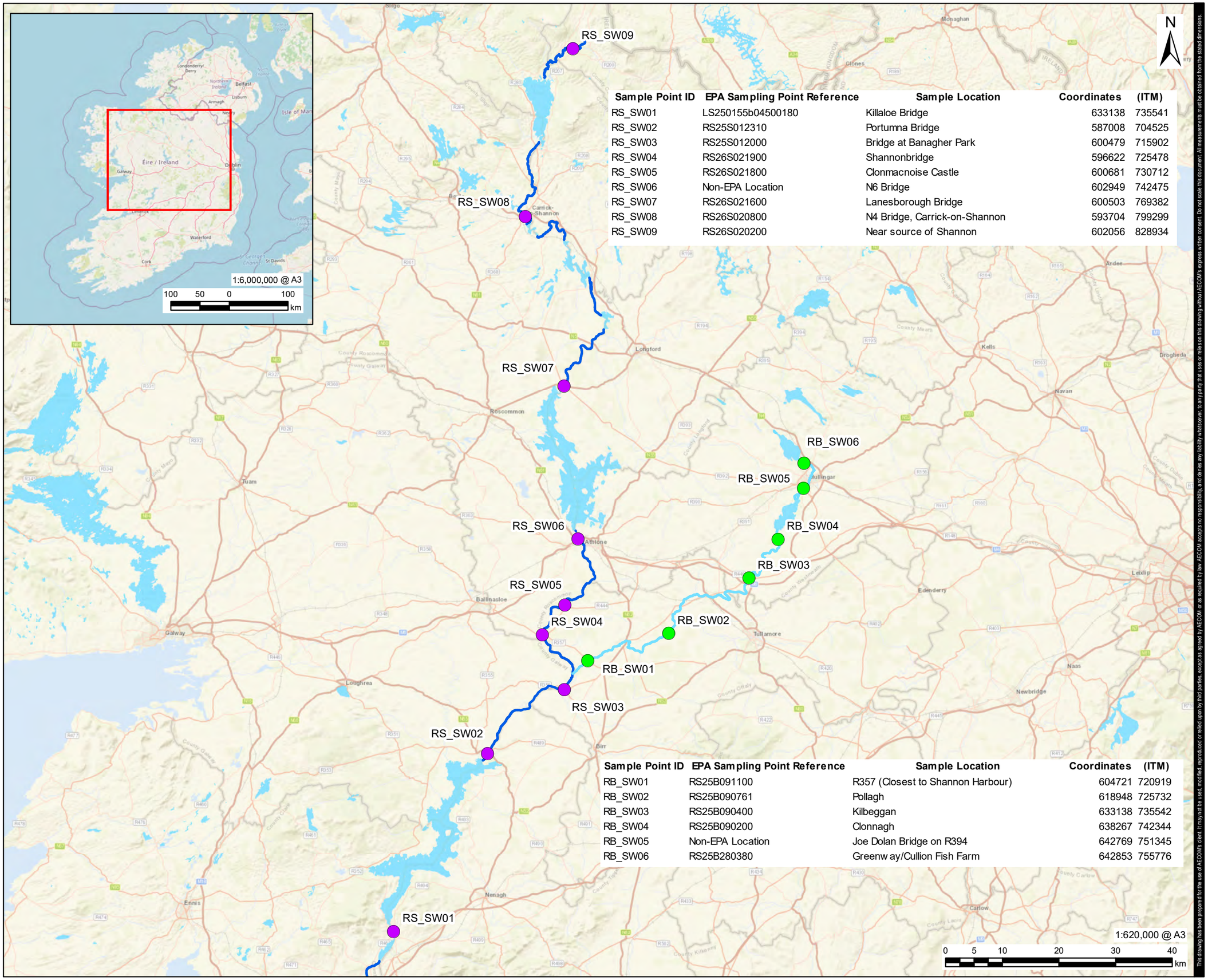
8. Recommendations

Based on the findings of the investigation, AECOM notes the following:

- No reportable concentrations of PFAS were identified in the surface water samples from the River Shannon. Two low level detections of Perfluorohexane sulfonic acid (PFHxS) and Perfluorooctane sulfonic acid (PFOS) compounds were reported in one sediment sample (RS_SS01 Carrick-on-Shannon) in a singular sampling event (Q3). The PFOS detection result was equal to the laboratory method detection limit (MDL). AECOM considers further surface water and sediment assessment within the River Shannon close to this sediment detection is necessary to assess the significance of this reported detection.
- Surface water and/or sediment samples along the River Brosna reported PFAS compounds at multiple locations both upstream (RB_SW06) and downstream (RB_SW03, RB_SW04, RB_SW05) of Mullingar, all close to the detection limit of 0.01 ug/L. The predominant PFAS compound reported at the locations downstream of Mullingar was Perfluorooctanoic acid (PFOA). PFOA was the only PFAS compound identified across all four surface water sampling occasions at locations RB_SW04 and RB_SW05 and all results at these two locations exceeded Tier 2 regulations for drinking water standards (DWS). The DWS guidance recommends that, for exceedances of Tier 2 Regulation 10, the minimum action to be undertaken is to consult local health professionals and to monitor levels in drinking water. The River Brosna is not a drinking water source for Mullingar, as the Mullingar Regional Water Supply is sourced from Lough Owel and treated at the Portloman Water Treatment Plant; however, AECOM recommend that, in the first instance, further investigation along the River Brosna is undertaken to determine source(s) of PFAS contamination of the River Brosna and assess whether a potential risk to human health and environment exists.
- All pesticide results were below the laboratory MDL, with the exception of Imazalil (detected in a singular occurrence at the River Brosna) and MCPA (detected in two separate, singular occurrences on the River Shannon). These results do not indicate widespread pesticide contamination and EPA should consider whether further assessment for pesticides on these rivers is required.
- Screening criteria for pesticides and PFAS are under constant development and review, therefore these reported concentrations should be reassessed against newly-released guidance and criteria, either on a 12-month basis and / or as they are developed.

Appendix A Figures

Revision: 0 Drawn: LM Checked: BS Approved: AT Date: 2022-04-22



Sample Point ID	EPA Sampling Point Reference	Sample Location	Coordinates	(ITM)
RS_SW01	LS250155b04500180	Killaloe Bridge	633138	735541
RS_SW02	RS25S012310	Portumna Bridge	587008	704525
RS_SW03	RS25S012000	Bridge at Banagher Park	600479	715902
RS_SW04	RS26S021900	Shannonbridge	596622	725478
RS_SW05	RS26S021800	Clonmacnoise Castle	600681	730712
RS_SW06	Non-EPA Location	N6 Bridge	602949	742475
RS_SW07	RS26S021600	Lanesborough Bridge	600503	769382
RS_SW08	RS26S020800	N4 Bridge, Carrick-on-Shannon	593704	799299
RS_SW09	RS26S020200	Near source of Shannon	602056	828934

Sample Point ID	EPA Sampling Point Reference	Sample Location	Coordinates	(ITM)
RB_SW01	RS25B091100	R357 (Closest to Shannon Harbour)	604721	720919
RB_SW02	RS25B090761	Pollagh	618948	725732
RB_SW03	RS25B090400	Kilbeggan	633138	735542
RB_SW04	RS25B090200	Clonnagh	638267	742344
RB_SW05	Non-EPA Location	Joe Dolan Bridge on R394	642769	751345
RB_SW06	RS25B280380	Greenw ay/Cullion Fish Farm	642853	755776

AECOM

PROJECT
River Sampling 2021/2022

CLIENT
EPA

CONSULTANT
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LEGEND
- River Brosna Surface Water Sample
- River Shannon Surface Water Sample
- Lake Waterbodies
- River Brosna
- River Shannon

NOTES
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ISSUE PURPOSE
INFORMATION

PROJECT NUMBER
60659529

FIGURE TITLE
Sampling Locations

FIGURE NUMBER
Figure 1

Filename: \\na.aecomnet.com\ifs\EMEA\Dublin\EDBL2\Legacy\DU-MAN-002\Data\CoDublin-Jobs\GIS\60659529_EPA_RiverSampling_PFAS\GIS\02_Maps\Figure 1 - Sampling Locations.mxd

Revision: 0 Drawn: LM Checked: BS Approved: AT Date: 2022-04-22

Filename: \\na.aecomnet.com\fs\EMEA\Dublin\EDBL2\Legacy\DU-MAN-002\Data\CoDublin-Jobs\GIS\60659529_EPA_RiverSampling_PFAS\GIS\02_Maps\Figure 2 - River Brosna Sampling Results (SW & Sediment).mxd

N

RB_SW06

RB_SW05

RB_SW04

RB_SW03

RB_SW06 - Sediment PFAS Results

Date	PFOS (mg/kg)	PFOA (mg/kg)
Jun-21	<0.000500	<0.000500
Aug-21	<0.000500	0.0269
Aug-21	<0.000500	<0.000500
Nov-21	<0.000500	0.00175
Nov-21	<0.000500	0.000796
Feb-22	<0.000500	0.00269

RB_SW06 - SW Pesticide Results

Date	Imazalil µg/L
Jun-21	<0.050
Aug-21	<0.050
Aug-21	<0.050
Nov-21	0.104
Nov-21	0.104
Feb-22	<0.050

RB_SW05 - SW PFAS Results

Date	PFOA (µg/L)	PFDA (µg/L)
Jun-21	0.0346	<0.010
Aug-21	0.0354	<0.010
Nov-21	0.0340	0.010
Nov-21	0.0258	<0.010
Feb-22	0.0478	<0.010
Feb-22	0.0440	<0.010

RB_SW04 - SW PFAS Results

Date	PFOA (µg/L)
Jun-21	0.0145
Aug-21	0.0160
Nov-21	0.0131
Nov-21	0.0126
Feb-22	0.0124
Feb-22	0.0120

RB_SW03 - Sediment PFAS Results

Date	PFOS (mg/kg)	PFOA (mg/kg)
Jun-21	<0.000500	<0.000500
Aug-21	<0.000500	<0.000500
Nov-21	<0.000500	<0.000500
Feb-22	0.00437	0.00429

RB_SW03 - SW PFAS Results

Date	PFOA (µg/L)
Jun-21	0.0111
Aug-21	0.0119
Aug-21	0.0133
Nov-21	0.0108
Nov-21	<0.0100
Feb-22	<0.0100
Feb-22	<0.0100

1:135,000 @ A3

0 2.5 5 10 15 20 km

AECOM

PROJECT

River Sampling 2021/2022

CLIENT

EPA

CONSULTANT

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LEGEND

- River Brosna Surface Water Sample
- Lake Waterbodies
- River Brosna
- River Flow Direction

NOTES

PFDA = Perfluorodecanoic acid
PFOS = Perfluorooctane sulfonic acid
PFOA = Perfluorooctanoic acid

ISSUE PURPOSE

INFORMATION

PROJECT NUMBER

60659529

FIGURE TITLE

River Brosna Sampling Results (SW & Sediment)

FIGURE NUMBER

Figure 2

Revision: 0 Drawn: LM Checked: BS Approved: AT Date: 2022-04-21

Filename: C:\Temp\60659529_EPA_RiverSampling_PFAS\GIS\02_Maps\Figure 3 - River Shannon Sampling Results (SW & Sediment).mxd

RS_SW08 - Sediment PFAS Results (mg/kg)	Perfluorinated	Compounds
Date	PFHxS	PFOS
Jun-21	<0.000500	<0.000500
Aug-21	<0.000500	<0.000500
Aug-21	<0.000500	<0.000500
Nov-21	<0.000500	<0.000500
Nov-21	0.000502	0.0100

RS_SW08 - SW Pesticide Results	
Date	MCPA µg/L
Jun-21	0.065
Aug-21	<0.050
Nov-21	<0.050
Feb-22	<0.050

RS_SW07 - SW Pesticide Results	
Date	MCPA µg/L
Jun-21	0.062
Aug-21	<0.050
Nov-21	<0.050
Feb-22	<0.050

RS_SW08

RS_SW07

N

1:190,000 @ A3

0 2.5 5 10 15 20 km

AECOM

PROJECT

River Sampling 2021/2022

CLIENT

EPA

CONSULTANT

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www.aecom.com

LEGEND

- River Shannon Surface Water Sample
- Lake Waterbodies
- River Shannon
- River Flow Direction

NOTES

MCPA = 2-methyl-4-chlorophenoxyacetic acid
PFOA = Perfluorooctanoic acid
PFDA = Perfluorodecanoic acid
PFHxS = Perfluorohexane sulfonic acid

ISSUE PURPOSE

INFORMATION

PROJECT NUMBER

60659529

FIGURE TITLE

River Shannon Sampling Results (SW & Sediment)

FIGURE NUMBER

Figure 3

Appendix B Photolog

PHOTOGRAPHIC LOG

Client Name: Environmental Protection Agency	Site Location: River Shannon / River Brosna	Project No. 60659529

Photo No. 1	Date: 08/06/2021

Direction Photo Taken:

Looking south west

Description

Shannon Sample Location 09.

Photo No. 2	Date: 08/06/2021

Direction Photo Taken:

Looking east

Description

Shannon Sample Location 08.

Photo No. 3	Date: 08/06/2021	
Direction Photo Taken: Looking north		
Description Shannon Sample Location 07.		

Photo No. 4	Date: 08/06/2021	
Direction Photo Taken: Looking north		
Description Shannon Sample Location 06.		

Photo No. 5	Date: 08/06/2021	
Direction Photo Taken: Looking north		
Description Shannon Sample Location 05.		

Photo No. 6	Date: 08/06/2021	
Direction Photo Taken: Looking south		
Description Shannon Sample Location 04.		

Photo No. 7	Date: 09/06/2021
Direction Photo Taken: Looking west	
Description Water Sample taken from Shannon Sample Location 03.	

Photo No. 8	Date: 09/06/2021
Direction Photo Taken: Looking north	
Description Shannon Sample Location 02.	

Photo No. 9	Date: 09/06/2021	
Direction Photo Taken: Looking west		
Description Shannon Sample Location 01.		

Photo No. 10	Date: 26/08/2021	
Direction Photo Taken: Looking west		
Description Water Sample taken from River Brosna Sample Location 01.		

Photo No. 11	Date: 09/06/2021	
Direction Photo Taken: Looking west		
Description River Brosna Sample Location 02.		

Photo No. 12	Date: 09/06/2021	
Direction Photo Taken: Looking south		
Description River Brosna Sample Location 03.		

Photo No. 13	Date: 09/06/2021
Direction Photo Taken: Looking south	
Description River Brosna Sample Location 04.	

Photo No. 14	Date: 10/06/2021
Direction Photo Taken: Looking east	
Description River Brosna Sample Location 05.	

Photo No. 15	Date: 10/06/2021
Direction Photo Taken: Looking south	
Description River Brosna Sample Location 06.	

Photo No. 16	Date: 22/02/2022
Direction Photo Taken: Looking south	
Description Flooded River Shannon Sample Location 05 during Q4 sampling.	

Appendix C Tables

Appendix C - Table 1a. Sample Schedule Surface Water

	Q1	Q2	Q3	Q4
	08-10/06/2021	25-27/08/2021	23-25/11/2021	23-24/02/2022
Sample				
RB_SW01	X	X	X	X
RB_SW02	X	X	X	X
RB_SW03	X	X	X	X
RB_SW04	X	X	X	X
RB_SW05	X	X	X	X
RB_SW06	X	X	X	X
RS_SW01	X	X	X	X
RS_SW02	X	X	X	X
RS_SW03	X	X	X	X
RS_SW04	X	X	X	X
RS_SW05	X	X	X	-
RS_SW06	X	X	X	X
RS_SW07	X	X	X	X
RS_SW08	X	X	X	X
RS_SW09	X	X	X	X

Appendix C - Table 1b. Sample Schedule Sediment

	Q1	Q2	Q3	Q4
	08-10/06/2021	25-27/08/2021	23-25/11/2021	23-24/02/2022
Sample				
RB_SS01	X	X	X	X
RB_SS02	X	X	X	X
RS_SS01	X	X	X	X
RS_SS02	X	X	X	X
RS_SS03	X	-	-	-

	Sample analysed once only for PFAS
-	Not sampled

Appendix C Table 2a: River Shannon Field Readings

River Shannon Field Readings												
Sample Location	RS_SW01				RS_SW02				RS_SW03			
Date	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022
Field Readings												
Turbidity	Low	Low		Low	Low	Low	None	Low	Low	Low	None	None
Temperature (°C)	14.1	19.7	10	7.33	16.5	18.7	8	7.19	16.3	18.8	8	7.28
pH	8.34	8.5	8.22	8.44	8.17	8.07	7.94	8.05	8.19	8.13	7.9	8.05
Field Redox (mV)	149	-	172.5	128.7	154.2	-	213.7	151.8	177.6	-	211.7	140.9
Conductivity (µS/cm)	437.8	416.6	389.5	318.8	454.4	384.5	396.3	326.4	442.2	375.2	399.6	362.7
Dissolved Oxygen (mg/L)	9.28	10.38	11.07	11.92	8.95	9.09	11.18	10.524	9.1	8.8	10.89	10.604
Weather	Overcast	Sunny / Dry	Overcast / wet	Overcast	Warm	Foggy / Dry	Overcast / wet	Overcast / windy	Rainy	Foggy / dry	140.9	Overcast / windy
Flow	Moderate	Moderate	Moderate	Moderate	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Sample Description	Pale, yellow, clear NEC	Clear, no sediment, NEC	-	Light yellow, small amount of fine sediment, NEC	Pale, yellow, clear NEC	Clear, no sediment, NEC	Clear, light yellow, NEC	Light yellow, slightly turbid, NEC	Paleyellow, clear, NEC	Clear, no sediment, NEC	Clear, light yellow, NEC	Light yellow, slightly turbid, NEC

Appendix C Table 2a: River Shannon Field Readings

	River Shannon Field Readings										
Sample Location	RS_SW04				RS_SW05			RS_SW06			
Date	08/06/2021	25/08/2021	24/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	08/06/2021	25/08/2021	23/11/2021	22/02/2022
Field Readings											
Turbidity	Low	Low	None	Low				Low	Low	None	None
Temperature (°C)	16.1	19.2	8.6	7.21	16.2	19.2	8.9	15	19	9.5	7.75
pH	8.27	8.26	7.95	8.39	8.29	8.33	8.01	8.29	8.39	8	8.23
Field Redox (mV)	154.8	-	147.3	139.9	170.3	-	167.4	192.7	-	141.3	150.3
Conductivity (µS/cm)	360.3	345.6	320.4	285.1	370.0	339.2	317.5	358.9	335.8	309.4	288.8
Dissolved Oxygen (mg/L)	9.6	9.18	11.13	11.85	9.6	9.58	10.93	9.18	8.64	9.98	11.07
Weather	Overcast / windy	Dry / sunny	Overcast / wet	Overcast / windy	Dry / sunny	Dry / sunny	Clear / dry	Overcast	Dry / overcast	Clear / dry	Clear / windy
Flow	Moderate	Moderate	Low	Low	Moderate	Moderate	Low	Low	Moderate	Low	Low
Sample Description	Pale, yellow, clear, NEC	Clear, no sediment, NEC	Clear, light yellow, NEC	Light yellow brown, low turbidity, NEC	Light yellow, clear, NEC	Clear, no sediment, NEC	Light yellow, clear, NEC	Yellow, clear, NEC	Clear, suspended sediments, NEC	Clear light yellow, moderate suspended soilids, NEC	Slightly yellow, NEC

Appendix C Table 2a: River Shannon Field Readings

River Shannon Field Readings												
Sample Location	RS_SW07				RS_SW08				RS_SW09			
Date	08/06/2021	25/08/2021	23/11/2021	22/02/2022	08/06/2022	25/08/2022	23/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	22/02/2022
Field Readings												
Turbidity	Low	Low	None	Moderate	Low	Very Low	Moderate	Low	Low	Moderate	None	-
Temperature (°C)	18.1	19	8.5	6.74	17	18.6	8.7	6.72	15.3	14.9	6.5	6.49
pH	7.94	7.52	7.67	8.15	7.92	7.52	7.47	7.92	8.1	7.61	7.41	7.95
Field Redox (mV)	178.5	-	193.9	141.8	172.8	-	196.9	167.8	213.7	-	216.3	198.5
Conductivity (µS/cm)	292.9	218.5	295.7	191.0	224.6	133.4	262.2	167.6	201.6	130.6	122.9	105.1
Dissolved Oxygen (mg/L)	8.37	7.12	10.33	11.66	8.43	7.91	8.78	11.79	10.29	9.65	12.22	12.42
Weather	Overcast / windy	Sunny / dry	Clear / dry	Clear / windy	Warm / overcast	Dry / sunny	Overcast / dry	Clear / cold	Warm / overcast	Sunny / dry	Overcast / dry	Clear / dry
Flow	Moderate	Moderate	Moderate	Moderate	Moderate	Low	Low	Moderate	Low	Low	Low	High
Sample Description	Yellow, NEC	Clear, NEC	Clear, NEC	Cloudy light brown, NEC	Yellow, NEC	Clear, NEC	Yellow brown, NEC	Light brown, NEC	Yellow, NEC	Pale brown with sediment	Yellow brown, NEC	Slightly cloudy, NEC

Appendix C Table 2a: River Shannon Field Readings

Appendix C - Table 2b: River Brosna Field Readings

River Brosna Field Readings

Sample Location	RB_SW01				RB_SW02				RB_SW03			
Date	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022
Field Readings												
Turbidity	Low	Low	None	Medium	Low	Low	Slight	Medium	Low	Low	Moderate	Low
Temperature (°C)	17	19.5	6.5	7.55	16.4	17.5	7.2	7.56	16.3	18.5	7.6	6.95
pH	8.17	8.26	7.93	7.8	8.04	8.07	7.88	7.93	8.12	8	7.92	8.1
Field Redox (mV)	141.4	-	209.5	155	152.2	-	159.6	149.5	122.7	-	182.3	146
Conductivity (µS/cm)	672.0	598.0	644.0	439.3	624.0	598.0	649.0	461.5	554.0	435.2	474.0	405.6
Dissolved Oxygen (mg/L)	7.85	7.82	12.09	10.36	10.11	10.85	11.62	10.454	10.24	10.07	12.23	11.113
Weather	Overcast	Dry / sunny	Overcast / wet	Overcast / windy	Overcast	Dry / sunny	Clear / dry	Overcast / cold	Warm / overcast	Sunny / dry	Overcast / dry	Overcast / windy
Flow		Moderate	Moderate	High	Moderate	Low	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Sample Description	Pale, NEC	Clear, NEC	Clear, NEC	Light yellow, NEC	Clear, NEC	Clear, NEC	Clear, NEC	Light yellow, NEC	Clear, NEC	Clear, NEC	Clear, NEC	Light yellow, NEC

Appendix C Table 2a: River Shannon Field Readings

	River Brosna Field Readings											
Sample Location	RB_SW04				RB_SW05				RB_SW06			
Date	09/06/2021	26/08/2021	25/11/2021	23/02/2022	10/06/2021	27/08/2021	25/11/2021	24/02/2022	10/06/2021	27/08/2021	25/11/2021	24/02/2022
Field Readings												
Turbidity	Low	Low	None	None	Low	Moderate	High		Low	Low	None	Low
Temperature (°C)	16.5	19.8	6.3	7.24	16.2	16.2	7.3	6.36	16.1	17.6	6.1	6.56
pH	8.13	8.02	7.81	8.26	7.71	7.48	7.53	7.51	7.86	7.58	7.61	7.54
Field Redox (mV)	146.5	-	133.5	142.7	175.1	-	-	182.22	154.4	-	61.1	171.9
Conductivity (µS/cm)	496.0	375.4	451.8	371.1	546.0	545.0	158.4	528.5	286.2	294.2	306.1	441.0
Dissolved Oxygen (mg/L)	10.46	10.93	10.02	11.997	6.07	4.52	7.12	10.8	9.58	8.85	11.75	9.8
Weather	Overcast / warm	Dry / sunny	Clear	Overcast	Overcast	Overcast / Dry	Clear	Clear	Sunny	Sunny	Overcast	Overcast
Flow	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Sample Description	Clear, NEC	Clear, NEC	Clear, NEC	Clear, NEC	Clear, stagnant odour	Clear, NEC	Dark grey brown, NEC	Cloudy, light brown, high turbidity	Clear, NEC	Clear, NEC	Clear, NEC	Light brown, NEC

Appendix C - Table 3: Sediment PFAS Results

					Brosna 6						Brosna 3					
Sample Location																
Sample ID					RB_SS01	RB_SS02	RB_SS02	RB_SS02	RB_SS02	RB_SS02	RB_SS02	RB_SS01	RB_SS01	RB_SS01	RB_SS01	RB_SS01
Laboratory Sample ID					PR2155273020	PR2183443016	PR2183443060	PR21B7051019	PR21B7681003	PR2217901019	PR2155273019	PR2183443017	PR2183443061	PR21B7051020	PR21B7681004	PR2217901020
Quarter					Q1	Q2	Q2	Q3	Q3	Q4	Q1	Q2	Q2	Q3	Q3	Q4
Sampling Date					10/06/2021	26/08/2021	26/08/2021	25/11/2021	25/11/2021	24/02/2022	09/06/2021	26/08/2021	26/08/2021	24/11/2021	24/11/2021	23/02/2022
Perfluorinated Compounds	**MDL**	**Unit**	Human Health Screening Criteria	Ecological Screening Criteria												
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorobutane sulfonic acid (PFBS)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorobutanoic acid (PFBA)	0.0005	mg/kg DW	16, 400 [#3]		<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorodecane sulfonic acid (PFDS)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorodecanoic acid (PFDA)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorododecanoic acid (PFDoDA)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluoroheptane sulfonic acid (PFHpS)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluoroheptanoic acid (PFHpA)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorohexane sulfonic acid (PFHxS)	0.0005	mg/kg DW	1 [#1] / 20 [#2]		<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorohexanoic acid (PFHxA)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorononanoic acid (PFNA)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorooctane sulfonamide (FOSA)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorooctane sulfonic acid (PFOS)	0.0005	mg/kg DW	1 [#1] / 20 [#2] / 16.4 [#3]	0.014 [#4]	<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	0.00437
Perfluorooctanoic acid (PFOA)	0.0005	mg/kg DW	10 [#1] / 20 [#2] / 16.4 [#3]	0.022 [#4]	<0.000500	0.0269	<0.000500	0.00175	0.000796	0.00269	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	0.00429
Perfluoropentanoic acid (PFPeA)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluoroundecanoic acid (PFUnDA)	0.0005	mg/kg DW			<0.000500	<0.00500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Sum of 12 PFAS (M1)	0.003	mg/kg DW				0.0269	<0.00300	0.00175				<0.00300	<0.00300	<0.00300		
PFOS + PFHxS		mg/kg DW	20 [#2]		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00437
Physical Parameters																
Dry matter @ 105°C		%			70.6	31.0	52.6	40.4	38.1	73.5	91.4	84.7	81.8	91.5	85.9	42.8

Comments

#1 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0. January 2020. Public Open Space.

#2 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0. January 2020. Commercial/ Industrial

#3 United States Environmental Protection Agency (USEPA). 2020. Regional Screening Levels (RSLs). RSL User's Guide, and RSLs Calculator, May 2020. Composite Worker.

#4 Environment Agency, Derivation and use of soil screening values for assessing ecological risks, report – SHARE id26 (revised), March 2020.

(blank): No assessment criteria available

MDL Method Detection Limit

xx Exceedance of Human Health Screening Criterion

xx Exceedance of Ecological Screening Criterion

Appendix C - Table 3: Sediment PFAS Results

Sample Location					Shannon 5			Shannon 4	Shannon 6			Shannon 8					Shannon 9	
Sample ID					RS_SS02	RS_SS02	RS_SS02	RS_SS02	RS_SS03	RS_SS03	RS_SS01	RS_SS01	RS_SS02	RS_SS02	RS_SS01	RS_SS01	RS_SS01	RS_SS01
Laboratory Sample ID					PR2155273018	PR21B7051018	PR21B7681002	PR2217901018	PR2183443065	PR2183443066	PR2217901017	PR2155273017	PR2183443015	PR2183443059	PR21B7051017	PR21B7681001	PR2183443014	PR2183443058
Quarter					Q1	Q3	Q3	Q4	Q1	Q1	Q4	Q1	Q2	Q2	Q3	Q3	Q2	Q2
Sampling Date					08/06/2021	23/11/2021	23/11/2021	22/02/2022	25/08/2021	25/08/2021	22/02/2022	08/06/2021	25/08/2021	25/08/2021	23/11/2021	23/11/2021	25/08/2021	25/08/2021
Perfluorinated Compounds	**MDL**	**Unit**	Human Health Screening Criteria	Ecological Screening Criteria														
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorobutane sulfonic acid (PFBS)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorobutanoic acid (PFBA)	0.0005	mg/kg DW	16, 400 [#3]		<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorodecane sulfonic acid (PFDS)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorodecanoic acid (PFDA)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorododecanoic acid (PFDoDA)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluoroheptane sulfonic acid (PFHpS)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluoroheptanoic acid (PFHpA)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorohexane sulfonic acid (PFHxS)	0.0005	mg/kg DW	1 [#1] / 20 [#2]		<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	0.000502	<0.000500	<0.000500
Perfluorohexanoic acid (PFHxA)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorononanoic acid (PFNA)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorooctane sulfonamide (FOSA)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluorooctane sulfonic acid (PFOS)	0.0005	mg/kg DW	1 [#1] / 20 [#2] / 16.4 [#3]	0.014[#4]	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	0.0100	<0.000500	<0.000500
Perfluorooctanoic acid (PFOA)	0.0005	mg/kg DW	10 [#1] / 20 [#2] / 16.4 [#3]	0.022[#4]	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluoropentanoic acid (PFPeA)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Perfluoroundecanoic acid (PFUnDA)	0.0005	mg/kg DW			<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Sum of 12 PFAS (M1)	0.003	mg/kg DW			-	<0.00300	-	-	<0.00300	<0.00300	-	-	<0.00300	<0.00300	<0.00300	-	<0.00300	<0.00300
PFOS + PFHxS		mg/kg DW	20 [#2]		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.010502	<0.0010	<0.0010
Physical Parameters																		
Dry matter @ 105°C		%			42.8	74.5	65.0	28.9	76.8	73.7	86.1	47.0	54.3	61.0	85.1	78.8	90.1	91.5

Comments

#1 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0. Januarv 2020. Public Oben Space.

#2 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0. Januarv 2020. Commercial/ Industrial

#3 United States Environmental Protection Agency (USEPA). 2020. Regional Screening Levels (RSLs). RSL User's Guide, and RSLs Calculator, May 2020. Composite Worker.

#4 Environment Agency, Derivation and use of soil screening values for assessing ecological risks, report – ShARE id26 (revised), March 2020.

(blank): No assessment criteria available

MDL Method Detection Limit

xx Exceedance of Human Health Screening Criterion

xx Exceedance of Ecological Screening Criterion

Appendix C - Table 4: Surface Water PFAS Results

Surface Water	River Basins SW Results													
Sample Location	RB_SW01							RB_SW02						
Sample ID	**RB_SW01**	**RB_SW01**	**RB_SW01**	**RB_SW01**	**RB_SW01**	**RB_SW01**	**RB_SW01**	**RB_SW02**	**RB_SW02**	**RB_SW02**	**RB_SW02**	**RB_SW02**	**RB_SW02**	**RB_SW02**
Laboratory Sample ID	PR2155273008	PR2183443008	PR2183443032	PR2187051008	PR2187051045	PR2217901008	PR2218053001	PR2155273009	PR2183443009	PR2183443033	PR2187051009	PR2187051046	PR2217901009	PR2217901042
Quarter	Q1	Q2	Q2	Q3	Q3	Q4	Q4	Q1	Q2	Q2	Q3	Q3	Q4	Q4
Sampling Date	09/06/2021	26/08/2021	26/08/2021	24/11/2021	24/11/2021	23/02/2022	23/02/2022	09/06/2021	26/08/2021	26/08/2021	24/11/2021	24/11/2021	23/02/2022	23/02/2022

Perfluorinated Compounds	MDL	Unit	Human Health Screening Criteria	Environmental Quality Standard													
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutane sulfonic acid (PFBS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutanoic acid (PFBA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecane sulfonic acid (PFDS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecanoic acid (PFDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorododecanoic acid (PFDoDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptane sulfonic acid (PFHpS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptanoic acid (PFHpA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexane sulfonic acid (PFHxS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexanoic acid (PFHxA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorononanoic acid (PFNA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonamide (FOSA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonic acid (PFOS)	0.0100	µg/L	0.070 [#4] / 0.3 [#3] / 0.01 [#9] / 0.1 [#10]	0.00013 [#5] / 0.00065 [#6] / 7.2 [#7] / 36 [#8]	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluorooctanoic acid (PFOA)	0.0100	µg/L	10 [#1] / 0.3 [#3] / 0.56 [#2] / 0.01 [#9] / 0.1 [#10]		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluoropentanoic acid (PFPeA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroundecanoic acid (PFUnDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of PFOS + PFHxS		µg/L	2.0 [#1] / 0.07 [#2]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFOA + PFOS		µg/L	0.070 [#4]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Comments

#1 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Recreational Water.

#2 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Drinking Water.

#3 United Kingdom Drinking Water Inspectorate (DWI). Guardians of drinking water quality. 2009. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. October 2009.

#4 United States Environmental Protection Agency (USEPA). 2016. Drinking Water Health Advisory for PFOS. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016

#5 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Inland Surface Water

#6 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Other Surface Water

#7 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Inland Surface Water

#8 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Other Surface Water

#9 United Kingdom Drinking Water Inspectorate (DWI). Regulations 2016. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. January 2021. Tier 2 Regulation 10

#10 Drinking Water Inspectorate, January 2021. Guidance on the Water Supply (Water Quality) Regulations 2016 specific to PFOS (perfluorooctane sulphonate) and PFOA (perfluorooctanoic acid) concentrations in drinking water - Tier 3 Regulation 4(2)

(blank): No assessment criteria available

MDL	Method Detection Limit
xx	Exceeds Human Health Screening Criteria Drinking Water and / or Recreational Use
xx	Exceeds Environmental Screening Criteria Annual Average Concentration
xx	Exceeds Environmental Screening Criteria Maximum Allowable Concentration

Appendix C - Table 4: Surface Water PFAS Results

					River Basins SW Results											
				Surface Water												
				Sample Location	RB_SW03							RB_SW04				
				Sample ID	RB_SW03	RB_SW03	RB_SW03	RB_SW03	RB_SW03	RB_SW03	RB_SW03	RB_SW04	RB_SW04	RB_SW04	RB_SW04	RB_SW04	RB_SW04
				Laboratory Sample ID	PR2155273010	PR2183443010	PR2183443034	PR2187051010	PR2187051047	PR2217901010	PR2217901043	PR2155273011	PR2183443035	PR2187051011	PR2187051048	PR2217901044	PR2217901011
				Quarter	Q1	Q2	Q2	Q3	Q3	Q4	Q4	Q1	Q2	Q3	Q3	Q4	Q4
				Sampling Date	09/06/2021	26/08/2021	26/08/2021	24/11/2021	24/11/2021	23/02/2022	23/02/2022	09/06/2021	26/08/2021	25/11/2021	25/11/2021	22/02/2022	24/02/2022
Perfluorinated Compounds	MDL	Unit	Human Health Screening Criteria	Environmental Quality Standard													
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutane sulfonic acid (PFBS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutanoic acid (PFBA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecane sulfonic acid (PFDS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecanoic acid (PFDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorododecanoic acid (PFDoDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptane sulfonic acid (PFHpS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptanoic acid (PFHpA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexane sulfonic acid (PFHxS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexanoic acid (PFHxA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorononanoic acid (PFNA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonamide (FOSA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonic acid (PFOS)	0.0100	µg/L	0.070 [#4] / 0.3 [#5] / 0.01 [#9] / 0.1 [#10]	0.00013 [#1] / 0.00065 [#2] / 7.2 [#7] / 36 [#8]	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluorooctanoic acid (PFOA)	0.0100	µg/L	10 [#1] / 0.3 [#3] / 0.56 [#2] / 0.01 [#9] / 0.1 [#10]		0.0111	0.0119	0.0133	0.0108	<0.0100	<0.0100	<0.0100	0.0145	0.0160	0.0131	0.0126	0.0124	0.0120
Perfluoropentanoic acid (PFPeA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroundecanoic acid (PFUnDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of PFOS + PFHxS		µg/L	2.0 [#1] / 0.07 [#2]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFOA + PFOS		µg/L	0.070 [#4]		0.0111	0.0119	0.0133	0.0108	<0.02	<0.02	<0.02	0.0145	0.0160	0.0131	0.0126	0.0124	0.0120

Comments

#1 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Recreational Water.

#2 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Drinking Water.

#3 United Kingdom Drinking Water Inspectorate (DWI). Guardians of drinking water quality. 2009. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. October 2009.

#4 United States Environmental Protection Agency (USEPA). 2016. Drinking Water Health Advisory for PFOS. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016

#5 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Inland Surface Water

#6 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Other Surface Water

#7 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Inland Surface Water

#8 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Other Surface Water

#9 United Kingdom Drinking Water Inspectorate (DWI). Regulations 2016. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. January 2021. Tier 2 Regulation 10

#10 Drinking Water Inspectorate, January 2021. Guidance on the Water Supply (Water Quality) Regulations 2016 specific to PFOS (perfluorooctane sulphonate) and PFOA (perfluorooctanoic acid) concentrations in drinking water - Tier 3 Regulation 4(2)

(blank): No assessment criteria available

MDL	Method Detection Limit
xx	Exceeds Human Health Screening Criteria Drinking Water and / or Recreational Use
xx	Exceeds Environmental Screening Criteria Annual Average Concentration
xx	Exceeds Environmental Screening Criteria Maximum Allowable Concentration

Appendix C - Table 4: Surface Water PFAS Results

					River Basins SW Results											
	Surface Water				RB_SW05						RB_SW06					
	Sample Location															
	Sample ID				**RB_SW05**	**RB_SW05**	**RB_SW05**	**RB_SW05**	**RB_SW05**	**RB_SW05**	**RB_SW06**	**RB_SW06**	**RB_SW06**	**RB_SW06**	**RB_SW06**	**RB_SW06**
	Laboratory Sample ID				PR2155273012	PR2183443036	PR2187051012	PR2187051049	PR2217901012	PR2217901045	PR2155273013	PR2183443037	PR2187051013	PR2187051050	PR2217901046	PR2217901013
	Quarter				Q1	Q2	Q3	Q3	Q4	Q4	Q1	Q2	Q3	Q3	Q4	Q4
	Sampling Date				10/06/2021	27/08/2021	25/11/2021	25/11/2021	24/02/2022	24/02/2022	10/06/2021	27/08/2021	25/11/2021	25/11/2021	24/02/2022	24/02/2022
Perfluorinated Compounds	MDL	Unit	Human Health Screening Criteria	Environmental Quality Standard												
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutane sulfonic acid (PFBS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutanoic acid (PFBA)	0.010	µg/L			<0.010	<0.020	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	<0.010
Perfluorodecane sulfonic acid (PFDS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecanoic acid (PFDA)	0.010	µg/L			<0.010	<0.020	0.010	<0.020	<0.020	<0.020	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020
Perfluorododecanoic acid (PFDoDA)	0.010	µg/L			<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020
Perfluoroheptane sulfonic acid (PFHpS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptanoic acid (PFHpA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexane sulfonic acid (PFHxS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexanoic acid (PFHxA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorononanoic acid (PFNA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonamide (FOSA)	0.010	µg/L			<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020
Perfluorooctane sulfonic acid (PFOS)	0.0100	µg/L	0.070 [#8] / 0.3 [#3] / 0.01 [#9] / 0.1 [#10]	0.00013 [#5] / 0.00065 [#6] / 7.2 [#7] / 36 [#8]	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluorooctanoic acid (PFOA)	0.0100	µg/L	10 [#1] / 0.3 [#3] / 0.56 [#2] / 0.01 [#9] / 0.1 [#10]		0.0346	0.0354	0.0340	0.0258	0.0478	0.0440	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluoropentanoic acid (PFPeA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroundecanoic acid (PFUnDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of PFOS + PFHxS		µg/L	2.0 [#1] / 0.07 [#2]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFOA + PFOS			0.070 [#4]		0.0346	0.0354	0.0340	0.0258	0.0478	0.0440	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Comments

#1 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Recreational Water.

#2 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Drinking Water.

#3 United Kingdom Drinking Water Inspectorate (DWI). Guardians of drinking water quality. 2009. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. October 2009.

#4 United States Environmental Protection Agency (USEPA). 2016. Drinking Water Health Advisory for PFOS. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016

#5 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Inland Surface Water

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#7 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Inland Surface Water

#8 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Other Surface Water

#9 United Kingdom Drinking Water Inspectorate (DWI). Regulations 2016. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. January 2021. Tier 2 Regulation 10

#10 Drinking Water Inspectorate, January 2021. Guidance on the Water Supply (Water Quality) Regulations 2016 specific to PFOS (perfluorooctane sulphonate) and PFOA (perfluorooctanoic acid) concentrations in drinking water - Tier 3 Regulation 4(2)

(blank): No assessment criteria available

MDL	Method Detection Limit
xx	Exceeds Human Health Screening Criteria Drinking Water and / or Recreational Use
xx	Exceeds Environmental Screening Criteria Annual Average Concentration
xx	Exceeds Environmental Screening Criteria Maximum Allowable Concentration

Appendix C - Table 4: Surface Water PFAS Results

					River Shannon SW Results													
				Surface Water														
				Sample Location	RS_SW01							RS_SW02						
				Sample ID	**RS_SW01**	**RS_SW01**	**RS_SW01**	**RS_SW01**	**RS_SW01**	**RS_SW01**	**RS_SW01**	**RS_SW02**	**RS_SW02**	**RS_SW02**	**RS_SW02**	**RS_SW02**	**RS_SW02**	**RS_SW02**
				Laboratory Sample ID	PR2155273001	PR2183443001	PR2183443025	PR2187051001	PR2187051038	PR2217901001	PR2217901035	PR2155273002	PR2183443002	PR2183443026	PR2187051002	PR2187051039	PR2217901002	PR2217901055
				Quarter	Q1	Q2	Q3	Q3	Q3	Q4	Q4	Q1	Q2	Q3	Q3	Q3	Q4	Q4
				Sampling Date	09/06/2021	26/08/2021	26/08/2021	24/11/2021	24/11/2021	23/02/2022	23/02/2022	09/06/2021	26/08/2021	26/08/2021	24/11/2021	24/11/2021	23/02/2022	23/02/2022
Perfluorinated Compounds	MDL	Unit	Human Health Screening Criteria	Environmental Quality Standard														
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutane sulfonic acid (PFBS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutanoic acid (PFBA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecane sulfonic acid (PFDS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecanoic acid (PFDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorododecanoic acid (PFDoDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptane sulfonic acid (PFHpS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptanoic acid (PFHpA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexane sulfonic acid (PFHxS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexanoic acid (PFHxA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorononanoic acid (PFNA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonamide (FOSA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonic acid (PFOS)	0.0100	µg/L	0.070 [#4] / 0.3 [#3] / 0.01 [#9] / 0.1 [#10]	0.00013 [#5] / 0.00065 [#6] / 7.2 [#7] / 36 [#8]	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluorooctanoic acid (PFOA)	0.0100	µg/L	10 [#1] / 0.3 [#3] / 0.56 [#2] / 0.01 [#9] / 0.1 [#10]		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluoropentanoic acid (PFPeA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroundecanoic acid (PFUnDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of PFOS + PFHxS		µg/L	2.0 [#1] / 0.07 [#2]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFOA + PFOS		µg/L	0.070 [#4]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Comments

#1 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Recreational Water.

#2 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Drinking Water.

#3 United Kingdom Drinking Water Inspectorate (DWI). Guardians of drinking water quality. 2009. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. October 2009.

#4 United States Environmental Protection Agency (USEPA). 2016. Drinking Water Health Advisory for PFOS. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016

#5 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Inland Surface Water

#6 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Other Surface Water

#7 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Inland Surface Water

#8 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Other Surface Water

#9 United Kingdom Drinking Water Inspectorate (DWI). Regulations 2016. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. January 2021. Tier 2 Regulation 10

#10 Drinking Water Inspectorate, January 2021. Guidance on the Water Supply (Water Quality) Regulations 2016 specific to PFOS (perfluorooctane sulphonate) and PFOA (perfluorooctanoic acid) concentrations in drinking water - Tier 3 Regulation 4(2)

(blank): No assessment criteria available

MDL	Method Detection Limit
xx	Exceeds Human Health Screening Criteria Drinking Water and / or Recreational Use
xx	Exceeds Environmental Screening Criteria Annual Average Concentration
xx	Exceeds Environmental Screening Criteria Maximum Allowable Concentration

Appendix C - Table 4: Surface Water PFAS Results

				Surface Water	River Shannon SW Results												
				Sample Location	RS_SW03							RS_SW04					
				Sample ID	**RS_SW03**	**RS_SW03**	**RS_SW03**	**RS_SW03**	**RS_SW03**	**RS_SW03**	**RS_SW03**	**RS_SW04**	**RS_SW04**	**RS_SW04**	**RS_SW04**	**RS_SW04**	**RS_SW04**	**RS_SW04**
				Laboratory Sample ID	PR2155273003	PR2183443003	PR2183443027	PR2187051003	PR2187051040	PR2217901003	PR2217901036	PR2155273004	PR2183443004	PR2183443028	PR2187051004	PR2187051041	PR2217901004	PR2217901037
				Quarter	Q1	Q2	Q3	Q3	Q3	Q4	Q4	Q1	Q2	Q3	Q3	Q3	Q4	Q4
				Sampling Date	09/06/2021	26/08/2021	26/08/2021	24/11/2021	24/11/2021	23/02/2022	23/02/2022	08/06/2021	25/08/2021	26/08/2021	24/11/2021	24/11/2021	22/02/2022	22/02/2022
Perfluorinated Compounds	MDL	Unit	Human Health Screening Criteria	Environmental Quality Standard														
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutane sulfonic acid (PFBS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutanoic acid (PFBA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecane sulfonic acid (PFDS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecanoic acid (PFDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorododecanoic acid (PFDoDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptane sulfonic acid (PFHpS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptanoic acid (PFHpA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexane sulfonic acid (PFHxS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexanoic acid (PFHxA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorononanoic acid (PFNA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonamide (FOSA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonic acid (PFOS)	0.0100	µg/L	0.070 [#4] / 0.3 [#3] / 0.01 [#9] / 0.1 [#10]	0.00013 [#5] / 0.00065 [#6] / 7.2 [#7] / 36 [#8]	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluorooctanoic acid (PFOA)	0.0100	µg/L	10 [#1] / 0.3 [#3] / 0.56 [#2] / 0.01 [#9] / 0.1 [#10]		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluoropentanoic acid (PFPeA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroundecanoic acid (PFUnDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of PFOS + PFHxS		µg/L	2.0 [#1] / 0.07 [#2]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFOA + PFOS		µg/L	0.070 [#4]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Comments

#1 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Recreational Water.

#2 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Drinking Water.

#3 United Kingdom Drinking Water Inspectorate (DWI). Guardians of drinking water quality. 2009. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. October 2009.

#4 United States Environmental Protection Agency (USEPA). 2016. Drinking Water Health Advisory for PFOS. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016

#5 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Inland Surface Water

#6 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Other Surface Water

#7 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Inland Surface Water

#8 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Other Surface Water

#9 United Kingdom Drinking Water Inspectorate (DWI). Regulations 2016. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. January 2021. Tier 2 Regulation 10

#10 Drinking Water Inspectorate, January 2021. Guidance on the Water Supply (Water Quality) Regulations 2016 specific to PFOS (perfluorooctane sulphonate) and PFOA (perfluorooctanoic acid) concentrations in drinking water - Tier 3 Regulation 4(2)

(blank): No assessment criteria available

MDL	Method Detection Limit
xx	Exceeds Human Health Screening Criteria Drinking Water and / or Recreational Use
xx	Exceeds Environmental Screening Criteria Annual Average Concentration
xx	Exceeds Environmental Screening Criteria Maximum Allowable Concentration

Appendix C - Table 4: Surface Water PFAS Results

					River Shannon SW Results																		
Surface Water					RS_SW05					RS_SW06							RS_SW07						
Sample Location																							
Sample ID					**RS_SW05**	**RS_SW05**	**RS_SW05**	**RS_SW05**	**RS_SW05**	**RS_SW06**	**RS_SW06**	**RS_SW06**	**RS_SW06**	**RS_SW06**	**RS_SW06**	**RS_SW06**	**RS_SW07**	**RS_SW07**	**RS_SW07**	**RS_SW07**	**RS_SW07**	**RS_SW07**	**RS_SW07**
Laboratory Sample ID					PR2156127001	PR2183443041	PR2183443052	PR2187051051	PR2187051052	PR2155273005	PR2183443005	PR2183443029	PR2187051005	PR2187051042	PR2217901005	PR2217901038	PR2156127002	PR2183443042	PR2183443053	PR2187051053	PR2187051054	PR2217901047	PR2217901048
Quarter					Q1	Q2	Q2	Q3	Q3	Q1	Q2	Q2	Q3	Q3	Q4	Q4	Q1	Q2	Q2	Q3	Q3	Q4	Q4
Sampling Date					08/06/2021	25/08/2021	25/08/2021	23/11/2021	23/11/2021	08/06/2021	25/08/2021	25/08/2021	23/11/2021	23/11/2021	22/02/2022	22/02/2022	08/06/2021	25/08/2021	25/08/2021	23/11/2021	23/11/2021	22/02/2022	22/02/2022
Perfluorinated Compounds	M.D.L.	Unit	Human Health Screening Criteria	Environmental Quality Standard																			
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutane sulfonic acid (PFBS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutanoic acid (PFBA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecane sulfonic acid (PFDS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecanoic acid (PFDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorododecanoic acid (PFDoDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptane sulfonic acid (PFHpS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptanoic acid (PFHpA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexane sulfonic acid (PFHxS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexanoic acid (PFHxA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorononanoic acid (PFNA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonamide (FOSA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonic acid (PFOS)	0.0100	µg/L	0.070 [#4] / 0.3 [#3] / 0.01 [#9] / 0.1 [#10]	0.00013 [#1] / 0.00065 [#5] / 7.2 [#7] / 36 [#8]	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluorooctanoic acid (PFOA)	0.0100	µg/L	10 [#1] / 0.3 [#3] / 0.56 [#2] / 0.01 [#9] / 0.1 [#10]		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluoropentanoic acid (PFPeA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroundecanoic acid (PFUnDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of PFOS + PFHxS		µg/L	2.0 [#1] / 0.07 [#2]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFOA + PFOS		µg/L	0.070 [#4]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Comments:

#1 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Recreational Water.

#2 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Drinking Water.

#3 United Kingdom Drinking Water Inspectorate (DWI). Guardians of drinking water quality. 2009. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. October 2009.

#4 United States Environmental Protection Agency (USEPA). 2016. Drinking Water Health Advisory for PFOS. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016

#5 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Inland Surface Water

#6 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Other Surface Water

#7 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Inland Surface Water

#8 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Other Surface Water

#9 United Kingdom Drinking Water Inspectorate (DWI). Regulations 2016. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. January 2021. Tier 2 Regulation 10

#10 Drinking Water Inspectorate, January 2021. Guidance on the Water Supply (Water Quality) Regulations 2016 specific to PFOS (perfluorooctane sulphonate) and PFOA (perfluorooctanoic acid) concentrations in drinking water - Tier 3 Regulation 4(2)

(blank): No assessment criteria available

M.D.L.	Method Detection Limit
xx	Exceeds Human Health Screening Criteria Drinking Water and / or Recreational Use
xx	Exceeds Environmental Screening Criteria Annual Average Concentration
xx	Exceeds Environmental Screening Criteria Maximum Allowable Concentration

Appendix C - Table 4: Surface Water PFAS Results

				Surface Water	River Shannon SW Results												
				Sample Location	RS_SW08							RS_SW09					
				Sample ID	**RS_SW08**	**RS_SW08**	**RS_SW08**	**RS_SW08**	**RS_SW08**	**RS_SW08**	**RS_SW08**	**RS_SW09**	**RS_SW09**	**RS_SW09**	**RS_SW09**	**RS_SW09**	**RS_SW09**
				Laboratory Sample ID	PR2155273006	PR2183443006	PR2183443030	PR2187051006	PR2187051043	PR2217901006	PR2217901039	PR2155273007	PR2183443007	PR2183443031	PR2187051007	PR2187051044	PR2217901007	PR2217901040
				Quarter	Q1	Q2	Q2	Q3	Q3	Q4	Q4	Q1	Q2	Q2	Q3	Q3	Q4	Q4
				Sampling Date	08/06/2021	25/08/2021	25/08/2021	23/11/2021	23/11/2021	22/02/2022	22/02/2022	08/06/2021	25/08/2021	25/08/2021	23/11/2021	23/11/2021	22/02/2022	22/02/2022
Perfluorinated Compounds	MDL	Unit	Human Health Screening Criteria	Environmental Quality Standard														
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutane sulfonic acid (PFBS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutanoic acid (PFBA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecane sulfonic acid (PFDS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecanoic acid (PFDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorododecanoic acid (PFDoDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptane sulfonic acid (PFHpS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptanoic acid (PFHpA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexane sulfonic acid (PFHxS)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexanoic acid (PFHxA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorononanoic acid (PFNA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonamide (FOSA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonic acid (PFOS)	0.0100	µg/L	0.070 [#4] / 0.3 [#3] / 0.01 [#9] / 0.1 [#10]	0.00013 [#5] / 0.00065 [#6] / 7.2 [#7] / 36 [#8]	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluorooctanoic acid (PFOA)	0.0100	µg/L	10 [#1] / 0.3 [#3] / 0.56 [#2] / 0.01 [#9] / 0.1 [#10]		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluoropentanoic acid (PFPeA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroundecanoic acid (PFUnDA)	0.010	µg/L			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of PFOS + PFHxS		µg/L	2.0 [#1] / 0.07 [#2]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFOA + PFOS		µg/L	0.070 [#4]		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Comments

#1 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Recreational Water.

#2 Heads of Environment Protection Authority (HEPA) Australia and New Zealand, 2018. PFAS National Environmental Management Plan (NEMP) Version 2.0, January 2020. Drinking Water.

#3 United Kingdom Drinking Water Inspectorate (DWI). Guardians of drinking water quality. 2009. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. October 2009.

#4 United States Environmental Protection Agency (USEPA). 2016. Drinking Water Health Advisory for PFOS. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016

#5 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Inland Surface Water

#6 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). AAC Other Surface Water

#7 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Inland Surface Water

#8 European Union Environmental Objectives (Surface Waters) Regulations (S.I No. 77 as amended in 2019). MAC Other Surface Water

#9 United Kingdom Drinking Water Inspectorate (DWI). Regulations 2016. Guidance on the Water Supply (Water Quality) Regulations 2000 specific to PFOS and PFOA concentrations in drinking water. January 2021. Tier 2 Regulation 10

#10 Drinking Water Inspectorate, January 2021. Guidance on the Water Supply (Water Quality) Regulations 2016 specific to PFOS (perfluorooctane sulphonate) and PFOA (perfluorooctanoic acid) concentrations in drinking water - Tier 3 Regulation 4(2)

(blank): No assessment criteria available

MDL	Method Detection Limit
xx	Exceeds Human Health Screening Criteria Drinking Water and / or Recreational Use
xx	Exceeds Environmental Screening Criteria Annual Average Concentration
xx	Exceeds Environmental Screening Criteria Maximum Allowable Concentration

Appendix C - Table 5: Surface Water Pesticide Results

Sample Location				RB_SW01				RB_SW02				RB_SW03			
Sample ID				RB_SW01	RB_SW01	RB_SW01	RB_SW01	RB_SW02	RB_SW02	RB_SW02	RB_SW02	RB_SW03	RB_SW03	RB_SW03	RB_SW03
Laboratory Sample ID				PR2155273030	PR2183443057	PR21B7051030	PR2217901029	PR2155273031	PR2183443022	PR21B7051031	PR2217901030	PR2155273032	PR2183443049	PR21B7051032	PR2217901031
Quarter				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sampling Date				09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022
Organochlorine Pesticides	**Unit**	**MDL**	**Environmental Quality Standards**												
1.2.3.4-Tetrachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1.2.3.5- & 1.2.4.5-Tetrachlorobenzene	µg/L	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
2.4-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2.4-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2.4-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Alachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aldrin	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chlordane-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chlordane-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dichlobenil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dieldrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endosulfan sulfate	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endrin aldehyde	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin ketone	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Heptachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachloroepoxide-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachloroepoxide-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorobenzene (HCB)	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Hexachlorobutadiene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Alpha	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Beta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Delta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Epsilon	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Gamma	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachloroethane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Isodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methoxychlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Mirex	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nonachlor-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nonachlor-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Oxychlordane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pentachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of 3 tetrachlorobenzenes	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Sum of 4 hexachlorcyclohexanes	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Sum of 4 isomers DDT	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Sum of 6 isomers DDT	µg/L	0.060		<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
Telodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trifluralin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
alpha-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
beta-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
PBBs															
PBB 153	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pesticides															
1-(3.4-Dichlorophenyl) urea (DCPU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2,3,6-Trichlorbenzoic acid	µg/L	0.100		<0.100	<0.600	<1.50	<0.800	<0.100	<0.600	<1.00	<0.800	<0.100	<0.600	<1.50	<0.800
2-Chloro-2.6-diethylacetanilide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylsulfonyl-4-trifluoromethyl benzoic acid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-amino-N-(isopropyl)benzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-D	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-T	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-TP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
4-CPP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
6-Chloroquinoxaline-2,3-diol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetamiprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetochlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acibenzolar-S-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acifluorfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aclonifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Alachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb sulfone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Amidosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aminopyralid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050
Atraton	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desisopropyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BAM	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BDMC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benalaxyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benazolin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bifenox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bitertanol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Boscalid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromophos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cadusafos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbendazim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbetamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran-3-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carboxin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carfentrazone-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorbromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorfenvinphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon-desphenyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpropham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	µg/L	0.0500		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Chlorpyrifos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clodinafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clomazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

Sample Location				RB_SW01				RB_SW02				RB_SW03			
Sample ID				RB_SW01	RB_SW01	RB_SW01	RB_SW01	RB_SW02	RB_SW02	RB_SW02	RB_SW02	RB_SW03	RB_SW03	RB_SW03	RB_SW03
Laboratory Sample ID				PR2155273030	PR2183443057	PR21B7051030	PR2217901029	PR2155273031	PR2183443022	PR21B7051031	PR2217901030	PR2155273032	PR2183443049	PR21B7051032	PR2217901031
Quarter				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sampling Date				09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022
Organochlorine Pesticides	**Unit**	**MDL**	**Environmental Quality Standards**												
Clomeprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clopyralid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050
Clothianidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Coumaphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Crimidine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cybutryne (Irgarol)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cymoxanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyproconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprodinil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyromazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
DNOC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Desmetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicamba	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlofenthion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlormid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorvos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diethofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenacoum	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflufenican	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimefuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethenamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethomorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoseb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoterb	µg/L	0.050		<0.050	<0.050	<0.300	<0.250	<0.050	<0.050	<0.150	<0.100	<0.050	<0.050	<0.150	<0.050
Diuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diuron desmethyl (DCPMU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
EPTC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Epoxiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethiofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethofumesate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethoprophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenamiphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenhexamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxaprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxycarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropimorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fensulfothion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fipronil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Florasulam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop-butyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluroxypyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flusilazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flutolanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fonofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Foramsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Furathiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop-methyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexaconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexazinone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexythiazox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazalil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazamethabenz-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazamox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazethapyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imidacloprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indoxacarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ioxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprodione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprovalicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-monodesmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isopyrazam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Kresoxim-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Lenacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Linuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPA	µg/L	0.050	0.075[1] / 12[2] / 80[3] / 0.075[4]	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malaoxon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mandipropamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mecarbam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mefenpyr-diethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesosulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesotrione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metalaxyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metamitron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metazachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methabenzthiazuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methamidophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methidathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methomyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methoxyfenozide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metobromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-desamino	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

Sample Location				RB_SW01				RB_SW02				RB_SW03			
Sample ID				**RB_SW01**	**RB_SW01**	**RB_SW01**	**RB_SW01**	**RB_SW02**	**RB_SW02**	**RB_SW02**	**RB_SW02**	**RB_SW03**	**RB_SW03**	**RB_SW03**	**RB_SW03**
Laboratory Sample ID				PR2155273030	PR2183443057	PR21B7051030	PR2217901029	PR2155273031	PR2183443022	PR21B7051031	PR2217901030	PR2155273032	PR2183443049	PR21B7051032	PR2217901031
Quarter				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sampling Date				09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022
Organochlorine Pesticides	**Unit**	**MDL**	**Environmental Quality Standards**												
Metribuzin-desamino diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metsulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Molinate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monocrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monolinuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Napropamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Naptalam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Neburon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nicosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nuarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Omethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxadixyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxamyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paclobutrazol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Penconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pencycuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pendimethalin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosalone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosmet	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosphamidon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pretilachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Primisulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prochloraz	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prodiamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Profenofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Promecarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propamocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propaquizafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxur	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxycarbazone-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propyzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prosulfocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prothioconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyribenzoxim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrimethanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyriproxifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinclorac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinmerac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinoxyfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quizalofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Rimsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sebuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Secbumeton	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sethoxydim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Spiroxamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuthiuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Teflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiabendazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiamethoxam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thifensulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiobencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiophanate-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tri-allate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimefon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimenol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triasulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triazophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tribenuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triclopyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triclosan	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050
Tricyclazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifloxysulfuron-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triflusulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triforine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triticonazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram (W-PESMS04 Method)	µg/L			<0.050	-	-	<0.050	<0.050	-	-	<0.050	<0.050	-	-	<0.050
Propoxycarbazone-sodium (W-PESMS04 Method)	µg/L			<0.050	-	-	<0.050	<0.050	-	-	<0.050	<0.050	-	-	<0.050
Sum of 3 tetrachlorobenzenes (M1)	µg/L	0.0150		-	<0.0150	-	-	-	<0.0150	-	-	-	<0.0150	-	-
Sum of 4 hexachlorocyclohexanes (M1)	µg/L	0.020		-	<0.020	-	-	-	<0.020	-	-	-	<0.020	-	-
Sum of 4 isomers DDT (M1)	µg/L	0.020		-	<0.020	-	-	-	<0.020	-	-	-	<0.020	-	-
Sum of 6 isomers DDT (M1)	µg/L	0.030		-	<0.030	-	-	-	<0.030	-	-	-	<0.030	-	-
Chloridazon-methyl desphenyl	µg/L			-	-	-	<0.050	-	-	-	<0.050	-	-	-	<0.050

Comments
#1 CW/WE Water. GTV - Ireland - Source: *Ireland GTVs 2016*
#2 CW/WE Water. Aquatic Toxicity - Ireland - Freshwater - Source: *SEPA WAT-SG-53 Fresh EQS - AA - 2015*
#3 CW/WE Water. Aquatic Toxicity - Ireland - Transitional/Coastal - Source: *SEPA WAT-SG-53 Marine EQS - AA - 2015*
#4 CW/WE Water. DWS - Ireland - Source: *Ireland GTVs 2016*

Appendix C - Table 5: Surface Water Pesticide Results

Organochlorine Pesticides	Unit	MDL	Environmental Quality Standards	RB_SW04					RB_SW05					RB_SW06				
Sample ID				RB_SW04	RB_SW04	RB_SW04	RB_SW04	RB_SW04	RB_SW05	RB_SW05	RB_SW05	RB_SW05	RB_SW05	RB_SW06	RB_SW06	RB_SW06	RB_SW06	RB_SW06
Laboratory Sample ID				PR2155273033	PR2183443011	PR2183443050	PR21B7051033	PR2217901032	PR2155273034	PR2183443012	PR2183443023	PR21B7051034	PR2217901033	PR2155273035	PR2183443013	PR2183443051	PR21B7051035	PR2217901034
Quarter				Q1	Q2	Q2	Q3	Q4	Q1	Q2	Q2	Q3	Q4	Q1	Q2	Q2	Q3	Q4
Sampling Date				09/06/2021	26/08/2021	26/08/2021	25/11/2021	24/02/2022	10/06/2021	27/08/2021	27/08/2021	25/11/2021	24/02/2022	10/06/2021	27/08/2021	27/08/2021	25/11/2021	24/02/2022
1.2.3.4-Tetrachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1.2.3.5- & 1.2.4.5-Tetrachlorobenzene	µg/L	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
2.4-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2.4-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2.4-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Alachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aldrin	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chlordane-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chlordane-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dichlobenil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dieldrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endosulfan sulfate	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endrin aldehyde	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin ketone	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Heptachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachloroepoxide-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachloroepoxide-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorobenzene (HCB)	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Hexachlorobutadiene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Alpha	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Beta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Delta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Epsilon	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Gamma	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachloroethane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Isodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methoxychlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Mirex	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nonachlor-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nonachlor-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Oxychlordane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pentachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of 3 tetrachlorobenzenes	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Sum of 4 hexachlorocyclohexanes	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Sum of 4 isomers DDT	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Sum of 6 isomers DDT	µg/L	0.060		<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
Telodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trifluralin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
alpha-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
beta-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
PBBs																		
PBB 153	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pesticides																		
1-(3.4-Dichlorophenyl) urea (DCPU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2,3,6-Trichlorbenzoic acid	µg/L	0.100		<0.100	<0.500	<0.600	<1.00	<0.800	<0.100	<0.500	<0.600	<1.50	<0.800	<0.100	<0.500	<0.600	<1.00	<0.800
2-Chloro-2.6-diethylacetanilide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylsulfonyl-4-trifluoromethyl benzoic acid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-amino-N-(isopropyl)benzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-D	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-T	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-TP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
4-CPP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
6-Chloroquinoxaline-2,3-diol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetamiprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetochlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acibenzolar-S-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acifluorfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aclonifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Alachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb sulfone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Amidosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aminopyralid	µg/L	0.050		<0.050	<0.100	<0.100	<0.100	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atraton	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desisopropyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BAM	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BDMC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benalaxyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benazolin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bifenox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bitertanol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Boscalid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromophos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cadusafos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbendazim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbetamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran-3-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carboxin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carfentrazone-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorbromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorfenvinphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon-desphenyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpropham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	µg/L	0.0500		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Chlorpyrifos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clodinafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clomazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

Sample Location				RB_SW04					RB_SW05					RB_SW06				
Sample ID				RB_SW04	RB_SW04	RB_SW04	RB_SW04	RB_SW04	RB_SW05	RB_SW05	RB_SW05	RB_SW05	RB_SW05	RB_SW06	RB_SW06	RB_SW06	RB_SW06	RB_SW06
Laboratory Sample ID				PR2155273033	PR2183443011	PR2183443050	PR21B7051033	PR2217901032	PR2155273034	PR2183443012	PR2183443023	PR21B7051034	PR2217901033	PR2155273035	PR2183443013	PR2183443051	PR21B7051035	PR2217901034
Quarter				Q1	Q2	Q2	Q3	Q4	Q1	Q2	Q2	Q3	Q4	Q1	Q2	Q2	Q3	Q4
Sampling Date				09/06/2021	26/08/2021	26/08/2021	25/11/2021	24/02/2022	10/06/2021	27/08/2021	27/08/2021	25/11/2021	24/02/2022	10/06/2021	27/08/2021	27/08/2021	25/11/2021	24/02/2022
Organochlorine Pesticides	**Unit**	**MDL**	**Environmental Quality Standards**															
Clomeprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clopyralid	µg/L	0.050		<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clothianidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Coumaphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Crimidine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cybutryne (Irgarol)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cymoxanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyproconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprodinil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyromazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
DNOC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Desmetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicamba	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlofenthion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlormid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorvos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diethofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenacoum	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflufenican	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimefuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethenamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethomorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoseb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoterb	µg/L	0.050		<0.050	<0.050	<0.050	<0.150	<0.050	<0.050	<0.050	<0.050	<0.200	<0.050	<0.100	<0.050	<0.050	<0.100	<0.050
Diuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diuron desmethyl (DCPMU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
EPTC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Epoxiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethiofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethofumesate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethoprophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenamiphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenhexamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxaprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxycarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropimorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fensulfothion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fipronil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Florasulam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop-butyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluroxypyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flusilazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flutolanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fonofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Foramsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Furathiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop-methyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexaconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexazinone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexythiazox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazalil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.104	<0.050
Imazamethabenz-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazamox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazethapyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imidacloprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indoxacarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ioxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprodione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprovalicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-monodesmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isopyrazam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Kresoxim-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Lenacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Linuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPA	µg/L	0.050	0.075[1] / 12[2] / 80[3] / 0.075[4]	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malaoxon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mandipropamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mecarbam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mefenpyr-diethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesosulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesotrione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metalaxyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metamitron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metazachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methabenzthiazuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methamidophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methidathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methomyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methoxyfenozide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metobromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-desamino	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

Organochlorine Pesticides	Unit	MDL	Environmental Quality Standards	RB_SW04					RB_SW05					RB_SW06				
Sample ID				RB_SW04	RB_SW04	RB_SW04	RB_SW04	RB_SW04	RB_SW05	RB_SW05	RB_SW05	RB_SW05	RB_SW05	RB_SW06	RB_SW06	RB_SW06	RB_SW06	RB_SW06
Laboratory Sample ID				PR2155273033	PR2183443011	PR2183443050	PR21B7051033	PR2217901032	PR2155273034	PR2183443012	PR2183443023	PR21B7051034	PR2217901033	PR2155273035	PR2183443013	PR2183443051	PR21B7051035	PR2217901034
Quarter				Q1	Q2	Q2	Q3	Q4	Q1	Q2	Q2	Q3	Q4	Q1	Q2	Q2	Q3	Q4
Sampling Date				09/06/2021	26/08/2021	26/08/2021	25/11/2021	24/02/2022	10/06/2021	27/08/2021	27/08/2021	25/11/2021	24/02/2022	10/06/2021	27/08/2021	27/08/2021	25/11/2021	24/02/2022
Metribuzin-desamino diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metsulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Molinate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monocrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monolinuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Napropamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Naptalam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Neburon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nicosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nuarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Omethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxadixyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxamyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paclobutrazol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Penconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pencycuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pendimethalin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosalone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosmet	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosphamidon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pretilachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Primisulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prochloraz	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prodiamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Profenofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Promecarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propamocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propaquizafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxur	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxycarbazone-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propyzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prosulfocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prothioconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyribenzoxim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrimethanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyriproxifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinclorac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinmerac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinoxyfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quizalofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Rimsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sebuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Secbumeton	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sethoxydim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Spiroxamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuthiuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Teflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiabendazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiamethoxam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thifensulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiobencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiophanate-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tri-allate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimefon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimenol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triasulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triazophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tribenuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triclopyr	µg/L	0.050		<0.100	<0.050	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050
Triclosan	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tricyclazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifloxysulfuron-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triflusulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triforine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triticonazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram (W-PESLMS04 Method)	µg/L			<0.050	-	-	-	<0.050	<0.050	-	-	-	<0.050	<0.050	-	-	-	<0.050
Propoxycarbazone-sodium (W-PESLMS04 Method)	µg/L			<0.050	-	-	-	<0.050	<0.050	-	-	-	<0.050	<0.050	-	-	-	<0.050
Sum of 3 tetrachlorobenzenes (M1)	µg/L	0.0150		-	<0.0150	<0.0150	-	-	-	<0.0150	<0.0150	-	-	-	<0.0150	<0.0150	-	-
Sum of 4 hexachlorocyclohexanes (M1)	µg/L	0.020		-	<0.020	<0.020	-	-	-	<0.020	<0.020	-	-	-	<0.020	<0.020	-	-
Sum of 4 isomers DDT (M1)	µg/L	0.020		-	<0.020	<0.020	-	-	-	<0.020	<0.020	-	-	-	<0.020	<0.020	-	-
Sum of 6 isomers DDT (M1)	µg/L	0.030		-	<0.030	<0.030	-	-	-	<0.030	<0.030	-	-	-	<0.030	<0.030	-	-
Chloridazon-methyl desphenyl	µg/L			-	-	-	-	<0.050	-	-	-	-	<0.050	-	-	-	-	<0.050

Comments
#1 CW/WE Water. GTV - Ireland - Source: *Ireland GTVs 2016*
#2 CW/WE Water. Aquatic Toxicity - Ireland - Freshwater - Source: *SEPA WAT-SG-53 Fresh EQS - AA - 2015*
#3 CW/WE Water. Aquatic Toxicity - Ireland - Transitional/Coastal - Source: *SEPA WAT-SG-53 Marine EQS - AA - 2015*
#4 CW/WE Water. DWS - Ireland - Source: *Ireland GTVs 2016*

Appendix C - Table 5: Surface Water Pesticide Results

Organochlorine Pesticides	Unit	MDL	Environmental Quality Standards	RS_SW01	RS_SW01	RS_SW01	RS_SW01	RS_SW02	RS_SW02	RS_SW02	RS_SW02	RS_SW03	RS_SW03	RS_SW03	RS_SW03
Sample Location				RS_SW01				RS_SW02				RS_SW03			
Laboratory Sample ID				PR2155273021	PR2183443043	PR21B7051021	PR2217901021	PR2155273022	PR2183443019	PR21B7051022	PR2217901022	PR2155273023	PR2183443020	PR21B7051023	PR2217901023
Quarter				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sampling Date				09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022
1.2.3.4-Tetrachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1.2.3.5- & 1.2.4.5-Tetrachlorobenzene	µg/L	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
2.4-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2.4-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2.4-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Alachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aldrin	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chlordane-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chlordane-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dichlobenil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dieldrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endosulfan sulfate	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endrin aldehyde	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin ketone	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Heptachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachloroepoxide-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachloroepoxide-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorobenzene (HCB)	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Hexachlorobutadiene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Alpha	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Beta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Delta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Epsilon	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Gamma	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachloroethane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Isodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methoxychlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Mirex	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nonachlor-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nonachlor-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Oxychlordane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pentachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of 3 tetrachlorobenzenes	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Sum of 4 hexachlorcyclohexanes	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Sum of 4 isomers DDT	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Sum of 6 isomers DDT	µg/L	0.060		<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
Telodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trifluralin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
alpha-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
beta-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
PBBs															
PBB 153	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pesticides															
1-(3.4-Dichlorophenyl) urea (DCPU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2,3,6-Trichlorbenzoic acid	µg/L	0.100		<0.100	<0.600	<1.50	<0.800	<0.100	<0.600	<1.20	<0.800	<0.100	<0.600	<1.20	<0.800
2-Chloro-2.6-diethylacetanilide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylsulfonyl-4-trifluoromethyl benzoic acid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-amino-N-(isopropyl)benzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-D	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-T	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-TP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
4-CPP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
6-Chloroquinoxaline-2,3-diol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetamiprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetochlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acibenzolar-S-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acifluorfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aclonifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Alachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb sulfone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Amidosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aminopyralid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atraton	µg/L	0.050		<0.050	<0.100	<0.050	<0.050	<0.050	<0.100	<0.100	<0.050	<0.050	<0.100	<0.100	<0.050
Atrazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desisopropyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BAM	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BDMC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benalaxyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benazolin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bifenox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bitertanol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Boscalid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromophos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cadusafos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbendazim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbetamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran-3-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carboxin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carfentrazone-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorbromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorfenvinphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon-desphenyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpropham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	µg/L	0.0500		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Chlorpyrifos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clodinafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clomazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

Organochlorine Pesticides	Unit	MDL	Environmental Quality Standards	RS_SW01				RS_SW02				RS_SW03			
Sample ID				RS_SW01	RS_SW01	RS_SW01	RS_SW01	RS_SW02	RS_SW02	RS_SW02	RS_SW02	RS_SW03	RS_SW03	RS_SW03	RS_SW03
Laboratory Sample ID				PR2155273021	PR2183443043	PR21B7051021	PR2217901021	PR2155273022	PR2183443019	PR21B7051022	PR2217901022	PR2155273023	PR2183443020	PR21B7051023	PR2217901023
Quarter				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sampling Date				09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022
Clomeprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clopyralid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.100	<0.050
Clothianidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Coumaphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Crimidine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cybutryne (Irgarol)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cymoxanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyproconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprodinil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyromazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
DNOC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Desmetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicamba	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlofenthion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlormid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorvos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diethofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenacoum	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflufenican	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimefuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethenamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethomorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoseb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoterb	µg/L	0.050		<0.050	<0.050	<0.200	<0.150	<0.050	<0.050	<0.200	<0.100	<0.050	<0.050	<0.200	<0.150
Diuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diuron desmethyl (DCPMU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
EPTC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Epoxiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethiofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethofumesate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethoprophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenamiphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenhexamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxaprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxycarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropimorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fensulfothion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fipronil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Florasulam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop-butyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluroxypyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flusilazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flutolanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fonofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Foramsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Furathiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop-methyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexaconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexazinone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexythiazox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazalil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazamethabenz-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazamox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazethapyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imidacloprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indoxacarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ioxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprodione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprovalicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-monodesmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isopyrazam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Kresoxim-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Lenacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Linuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPA	µg/L	0.050	0.075^{1} / 12^{2} / 80^{3} / 0.075^{4}	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malaoxon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mandipropamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mecarbam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mefenpyr-diethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesosulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesotrione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metalaxyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metamitron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metazachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methabenzthiazuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methamidophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methidathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methomyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methoxyfenozide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metobromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-desamino	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

Organochlorine Pesticides	Unit	MDL	Environmental Quality Standards	RS_SW01				RS_SW02				RS_SW03			
Sample ID				RS_SW01	RS_SW01	RS_SW01	RS_SW01	RS_SW02	RS_SW02	RS_SW02	RS_SW02	RS_SW03	RS_SW03	RS_SW03	RS_SW03
Laboratory Sample ID				PR2155273021	PR2183443043	PR21B7051021	PR2217901021	PR2155273022	PR2183443019	PR21B7051022	PR2217901022	PR2155273023	PR2183443020	PR21B7051023	PR2217901023
Quarter				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sampling Date				09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022	09/06/2021	26/08/2021	24/11/2021	23/02/2022
Metribuzin-desamino diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metsulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Molinate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monocrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monolinuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Napropamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Naptalam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Neburon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nicosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nuarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Omethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxadixyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxamyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paclobutrazol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Penconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pencycuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pendimethalin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosalone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosmet	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosphamidon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pretilachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Primisulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prochloraz	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prodiamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Profenofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Promecarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propamocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propaquizafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxur	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxycarbazone-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propyzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prosulfocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prothioconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyribenzoxim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrimethanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyriproxifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinclorac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinmerac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinoxyfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quizalofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Rimsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sebuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Secbumeton	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sethoxydim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Spiroxamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuthiuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Teflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiabendazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiamethoxam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thifensulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiobencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiophanate-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tri-allate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimefon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimenol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triasulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triazophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tribenuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triclopyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triclosan	µg/L	0.050		<0.100	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050
Tricyclazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifloxysulfuron-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triflusulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triforine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triticonazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram (W-PESLMS04 Method)	µg/L			<0.050	-	-	<0.050	<0.050	-	-	<0.050	<0.050	-	-	<0.050
Propoxycarbazone-sodium (W-PESLMS04 Method)	µg/L			<0.050	-	-	<0.050	<0.050	-	-	<0.050	<0.050	-	-	<0.050
Sum of 3 tetrachlorobenzenes (M1)	µg/L	0.0150		-	<0.0150	-	-	-	<0.0150	-	-	-	<0.0150	-	-
Sum of 4 hexachlorocyclohexanes (M1)	µg/L	0.020		-	<0.020	-	-	-	<0.020	-	-	-	<0.020	-	-
Sum of 4 isomers DDT (M1)	µg/L	0.020		-	<0.020	-	-	-	<0.020	-	-	-	<0.020	-	-
Sum of 6 isomers DDT (M1)	µg/L	0.030		-	<0.030	-	-	-	<0.030	-	-	-	<0.030	-	-
Chloridazon-methyl desphenyl	µg/L			-	-	-	<0.050	-	-	-	<0.050	-	-	-	<0.050

Comments
#1 CW/WE Water. GTV - Ireland - Source: *Ireland GTVs 2016*
#2 CW/WE Water. Aquatic Toxicity - Ireland - Freshwater - Source: *SEPA WAT-SG-53 Fresh EQS - AA - 2015*
#3 CW/WE Water. Aquatic Toxicity - Ireland - Transitional/Coastal - Source: *SEPA WAT-SG-53 Marine EQS - AA - 2015*
#4 CW/WE Water. DWS - Ireland - Source: *Ireland GTVs 2016*

Appendix C - Table 5: Surface Water Pesticide Results

			Sample Location	RS_SW04				RS_SW05			RS_SW06			
			Sample ID	RS_SW04	RS_SW04	RS_SW04	RS_SW04	RS_SW05	RS_SW05	RS_SW05	RS_SW06	RS_SW06	RS_SW06	RS_SW06
			Laboratory Sample ID	PR2155273024	PR2183443021	PR21B7051024	PR2217901024	PR2155273025	PR2183443044	PR21B7051025	PR2155273026	PR2183443045	PR21B7051026	PR2217901025
			Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q1	Q2	Q3	Q4
			Sampling Date	08/06/2021	25/08/2021	24/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	08/06/2021	25/08/2021	23/11/2021	22/02/2022
Organochlorine Pesticides	**Unit**	**MDL**	**Environmental Quality Standards**											
1.2.3.4-Tetrachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1.2.3.5- & 1.2.4.5-Tetrachlorobenzene	µg/L	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
2.4-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2.4-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2.4-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
4.4`-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Alachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Aldrin	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chlordane-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chlordane-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dichlobenil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dieldrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endosulfan sulfate	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Endrin aldehyde	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Endrin ketone	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Heptachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachloroepoxide-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Heptachloroepoxide-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorobenzene (HCB)	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Hexachlorobutadiene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Alpha	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Beta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Delta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Epsilon	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Gamma	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Hexachloroethane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Isodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methoxychlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Mirex	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nonachlor-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nonachlor-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Oxychlordane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pentachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sum of 3 tetrachlorobenzenes	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Sum of 4 hexachlorocyclohexanes	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Sum of 4 isomers DDT	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Sum of 6 isomers DDT	µg/L	0.060		<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
Telodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trifluralin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
alpha-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
beta-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
PBBs														
PBB 153	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pesticides														
1-(3.4-Dichlorophenyl) urea (DCPU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2,3,6-Trichlorbenzoic acid	µg/L	0.100		<0.100	<0.600	<1.50	<0.800	<0.100	<0.600	<1.50	<0.100	<0.600	<1.50	<0.800
2-Chloro-2.6-diethylacetanilide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylsulfonyl-4-trifluoromethyl benzoic acid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-amino-N-(isopropyl)benzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-D	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-T	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-TP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
4-CPP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
6-Chloroquinoxaline-2,3-diol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetamiprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetochlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acibenzolar-S-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acifluorfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aclonifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Alachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb sulfone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Amidosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aminopyralid	µg/L	0.050		<0.050	<0.100	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.100	<0.050	<0.050
Atraton	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desisopropyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BAM	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BDMC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benalaxyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benazolin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bifenox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bitertanol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Boscalid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromophos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cadusafos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbendazim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbetamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran-3-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carboxin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carfentrazone-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorbromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorfenvinphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon-desphenyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpropham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	µg/L	0.0500		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Chlorpyrifos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clodinafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clomazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

			Sample Location	RS_SW04				RS_SW05			RS_SW06			
			Sample ID	**RS_SW04**	**RS_SW04**	**RS_SW04**	**RS_SW04**	**RS_SW05**	**RS_SW05**	**RS_SW05**	**RS_SW06**	**RS_SW06**	**RS_SW06**	**RS_SW06**
			Laboratory Sample ID	PR2155273024	PR2183443021	PR21B7051024	PR2217901024	PR2155273025	PR2183443044	PR21B7051025	PR2155273026	PR2183443045	PR21B7051026	PR2217901025
			Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q1	Q2	Q3	Q4
			Sampling Date	08/06/2021	25/08/2021	24/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	08/06/2021	25/08/2021	23/11/2021	22/02/2022
Organochlorine Pesticides	**Unit**	**MDL**	**Environmental Quality Standards**											
Clomeprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clopyralid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.050
Clothianidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Coumaphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Crimidine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cybutryne (Irgarol)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cymoxanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyproconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprodinil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyromazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
DNOC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Desmetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicamba	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlofenthion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlormid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorvos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diethofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenacoum	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflufenican	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimefuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethenamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethomorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoseb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoterb	µg/L	0.050		<0.050	<0.050	<0.150	<0.150	<0.050	<0.050	<0.250	<0.050	<0.050	<0.050	<0.100
Diuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diuron desmethyl (DCPMU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
EPTC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Epoxiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethiofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethofumesate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethoprophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenamiphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenhexamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxaprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxycarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropimorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fensulfothion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fipronil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Florasulam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop-butyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluroxypyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flusilazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flutolanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fonofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Foramsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Furathiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop-methyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexaconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexazinone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexythiazox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazalil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazamethabenz-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazamox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazethapyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imidacloprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indoxacarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ioxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprodione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprovalicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-monodesmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isopyrazam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Kresoxim-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Lenacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Linuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPA	µg/L	0.050	0.075[1] / 12[2] / 80[3] / 0.075[4]	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malaoxon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mandipropamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mecarbam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mefenpyr-diethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesosulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesotrione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metalaxyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metamitron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metazachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methabenzthiazuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methamidophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methidathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methomyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methoxyfenozide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metobromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-desamino	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

			Sample Location	RS_SW04				RS_SW05			RS_SW06			
			Sample ID	**RS_SW04**	**RS_SW04**	**RS_SW04**	**RS_SW04**	**RS_SW05**	**RS_SW05**	**RS_SW05**	**RS_SW06**	**RS_SW06**	**RS_SW06**	**RS_SW06**
			Laboratory Sample ID	PR2155273024	PR2183443021	PR21B7051024	PR2217901024	PR2155273025	PR2183443044	PR21B7051025	PR2155273026	PR2183443045	PR21B7051026	PR2217901025
			Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q1	Q2	Q3	Q4
			Sampling Date	08/06/2021	25/08/2021	24/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	08/06/2021	25/08/2021	23/11/2021	22/02/2022
Organochlorine Pesticides	**Unit**	**MDL**	**Environmental Quality Standards**											
Metribuzin-desamino diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metsulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Molinate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monocrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monolinuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Napropamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Naptalam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Neburon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nicosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nuarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Omethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxadixyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxamyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paclobutrazol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Penconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pencycuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pendimethalin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosalone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosmet	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosphamidon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pretilachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Primisulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prochloraz	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prodiamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Profenofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Promecarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propamocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propaquizafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxur	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxycarbazone-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propyzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prosulfocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prothioconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyribenzoxim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrimethanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyriproxifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinclorac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinmerac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinoxyfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quizalofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Rimsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sebuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Secbumeton	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sethoxydim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Spiroxamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuthiuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Teflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiabendazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiamethoxam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thifensulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiobencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiophanate-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tri-allate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimefon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimenol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triasulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triazophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tribenuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triclopyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triclosan	µg/L	0.050		<0.100	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050
Tricyclazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifloxysulfuron-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triflusulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triforine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triticonazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram (W-PESLMS04 Method)	µg/L			<0.050	-	-	<0.050	<0.050	-	-	<0.050	-	-	<0.050
Propoxycarbazone-sodium (W-PESLMS04 Method)	µg/L			<0.050	-	-	<0.050	<0.050	-	-	<0.050	-	-	<0.050
Sum of 3 tetrachlorobenzenes (M1)	µg/L	0.0150		-	<0.0150	-	-	-	<0.0150	-	-	<0.0150	-	-
Sum of 4 hexachlorocyclohexanes (M1)	µg/L	0.020		-	<0.020	-	-	-	<0.020	-	-	<0.020	-	-
Sum of 4 isomers DDT (M1)	µg/L	0.020		-	<0.020	-	-	-	<0.020	-	-	<0.020	-	-
Sum of 6 isomers DDT (M1)	µg/L	0.030		-	<0.030	-	-	-	<0.030	-	-	<0.030	-	-
Chloridazon-methyl desphenyl	µg/L			-	-	-	<0.050	-	-	-	-	-	-	<0.050

Comments
#1 CW/WE Water. GTV - Ireland - Source: *Ireland GTVs 2016*
#2 CW/WE Water. Aquatic Toxicity - Ireland - Freshwater - Source: *SEPA WAT-SG-53 Fresh EQS - AA - 2015*
#3 CW/WE Water. Aquatic Toxicity - Ireland - Transitional/Coastal - Source: *SEPA WAT-SG-53 Marine EQS - AA - 2015*
#4 CW/WE Water. DWS - Ireland - Source: *Ireland GTVs 2016*

Appendix C - Table 5: Surface Water Pesticide Results

			Sample Location	RS_SW07				RS_SW08				RS_SW09			
			Sample ID	**RS_SW07**	**RS_SW07**	**RS_SW07**	**RS_SW07**	**RS_SW08**	**RS_SW08**	**RS_SW08**	**RS_SW08**	**RS_SW09**	**RS_SW09**	**RS_SW09**	**RS_SW09**
			Laboratory Sample ID	PR2155273027	PR2183443046	PR21B7051027	PR2217901026	PR2155273028	PR2183443047	PR21B7051028	PR2217901027	PR2155273029	PR2183443048	PR21B7051029	PR2217901028
			Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
			Sampling Date	08/06/2021	25/08/2021	23/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	22/02/2022
Organochlorine Pesticides	**Unit**	**MDL**	**Environmental Quality Standards**												
1.2.3.4-Tetrachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
1.2.3.5- & 1.2.4.5-Tetrachlorobenzene	µg/L	0.020		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
2.4-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
2.4-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
2.4-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
4.4`-DDD	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
4.4`-DDE	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
4.4`-DDT	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Alachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Aldrin	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Chlordane-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Chlordane-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Dichlobenil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Dieldrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Endosulfan sulfate	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Endrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Endrin aldehyde	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	
Endrin ketone	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	
Heptachlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Heptachloroepoxide-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Heptachloroepoxide-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Hexachlorobenzene (HCB)	µg/L	0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Hexachlorobutadiene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Hexachlorocyclohexane Alpha	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Hexachlorocyclohexane Beta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Hexachlorocyclohexane Delta	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Hexachlorocyclohexane Epsilon	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Hexachlorocyclohexane Gamma	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Hexachloroethane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Isodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Methoxychlor	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Mirex	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Nonachlor-cis	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Nonachlor-trans	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Oxychlordane	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Pentachlorobenzene	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Sum of 3 tetrachlorobenzenes	µg/L	0.030		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	
Sum of 4 hexachlorcyclohexanes	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	
Sum of 4 isomers DDT	µg/L	0.040		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	
Sum of 6 isomers DDT	µg/L	0.060		<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	
Telodrin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Trifluralin	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
alpha-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
beta-Endosulfan	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
PBBs															
PBB 153	µg/L	0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Pesticides															
1-(3.4-Dichlorophenyl) urea (DCPU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2,3,6-Trichlorbenzoic acid	µg/L	0.100		<0.100	<0.600	<1.50	<0.800	<0.100	<0.600	<1.20	<0.800	<0.100	<0.600	<1.00	<0.300
2-Chloro-2.6-diethylacetanilide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylsulfonyl-4-trifluoromethyl benzoic acid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-amino-N-(isopropyl)benzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-D	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4-DP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-T	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2.4.5-TP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
4-CPP	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
6-Chloroquinoxaline-2,3-diol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetamiprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetochlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acibenzolar-S-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acifluorfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aclonifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Alachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aldicarb sulfone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Amidosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Aminopyralid	µg/L	0.050		<0.050	<0.100	<0.050	<0.050	<0.050	<0.100	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050
Atraton	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine-desisopropyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azinphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Azoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BAM	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BDMC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benalaxyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benazolin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bentazone methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bifenox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bitertanol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Boscalid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromophos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cadusafos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbendazim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbetamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran-3-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carboxin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carfentrazone-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorbromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorfenvinphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloridazon-desphenyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorotoluron-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpropham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	µg/L	0.0500		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Chlorpyrifos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clodinafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clomazone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

Sample Location				RS_SW07				RS_SW08				RS_SW09			
Sample ID				**RS_SW07**	**RS_SW07**	**RS_SW07**	**RS_SW07**	**RS_SW08**	**RS_SW08**	**RS_SW08**	**RS_SW08**	**RS_SW09**	**RS_SW09**	**RS_SW09**	**RS_SW09**
Laboratory Sample ID				PR2155273027	PR2183443046	PR21B7051027	PR2217901026	PR2155273028	PR2183443047	PR21B7051028	PR2217901027	PR2155273029	PR2183443048	PR21B7051029	PR2217901028
Quarter				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sampling Date				08/06/2021	25/08/2021	23/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	22/02/2022
Organochlorine Pesticides	**Unit**	**MDL**	**Environmental Quality Standards**												
Clomeprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Clopyralid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050
Clothianidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Coumaphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Crimidine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cybutryne (Irgarol)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cymoxanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyproconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyprodinil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyromazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
DNOC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Desmetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicamba	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlofenthion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlormid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorvos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dicrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diethofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenacoum	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Difenoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diflufenican	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimefuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethenamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethomorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoseb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dinoterb	µg/L	0.050		<0.050	<0.050	<0.150	<0.150	<0.050	<0.050	<0.300	<0.200	<0.050	<0.050	<0.050	<0.150
Diuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diuron desmethyl (DCPMU)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
EPTC	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Epoxiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethiofencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethofumesate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethoprophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenamiphos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenhexamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxaprop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenoxycarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropidin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenpropimorph	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fensulfothion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fenuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fipronil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Florasulam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluazifop-butyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluroxypyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flusilazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Flutolanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fonofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Foramsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Furathiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Haloxyfop-methyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexaconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexazinone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexythiazox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazalil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazamethabenz-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazamox	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imazethapyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Imidacloprid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indoxacarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ioxynil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprodione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iprovalicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-desmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isoproturon-monodesmethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Isopyrazam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Kresoxim-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Lenacil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Linuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPA	µg/L	0.050	$0.075^{1} / 12^{2} / 80^{3} / 0.075^{4}$	0.062	<0.050	<0.050	<0.050	0.065	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPB	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MCPP (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malaoxon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Malathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mandipropamid	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mecarbam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mefenpyr-diethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesosulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Mesotrione	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metalaxyl (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metamitron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metazachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methabenzthiazuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methamidophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methidathion	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methiocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methomyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methoxyfenozide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metobromuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor (isomers)	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metoxuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-desamino	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 5: Surface Water Pesticide Results

Organochlorine Pesticides	Unit	MDL	Environmental Quality Standards	RS_SW07				RS_SW08				RS_SW09			
Sample Location				RS_SW07				RS_SW08				RS_SW09			
Sample ID				RS_SW07	RS_SW07	RS_SW07	RS_SW07	RS_SW08	RS_SW08	RS_SW08	RS_SW08	RS_SW09	RS_SW09	RS_SW09	RS_SW09
Laboratory Sample ID				PR2155273027	PR2183443046	PR21B7051027	PR2217901026	PR2155273028	PR2183443047	PR21B7051028	PR2217901027	PR2155273029	PR2183443048	PR21B7051029	PR2217901028
Quarter				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sampling Date				08/06/2021	25/08/2021	23/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	22/02/2022	08/06/2021	25/08/2021	23/11/2021	22/02/2022
Metribuzin-desamino diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin-diketo	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metsulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Molinate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monocrotophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monolinuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Monuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Napropamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Naptalam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Neburon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nicosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nuarimol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Omethoate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxadixyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oxamyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paclobutrazol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Paraoxon-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Penconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pencycuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pendimethalin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosalone	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosmet	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phosphamidon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picoxystrobin	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimicarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-ethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pirimiphos-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pretilachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Primisulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prochloraz	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prodiamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Profenofos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Promecarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propachlor	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propamocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propaquizafop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propham	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propiconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxur	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propoxycarbazone-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propyzamide	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prosulfocarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prothioconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyribenzoxim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrimethanil	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyriproxifen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinclorac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinmerac	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quinoxyfen	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Quizalofop	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Rimsulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sebuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Secbumeton	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sethoxydim	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simetryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Spiroxamine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfosulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuconazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tebuthiuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Teflubenzuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl-2-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-hydroxy	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiabendazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiamethoxam	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thifensulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiobencarb	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thiophanate-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tri-allate	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimefon	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triadimenol	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triasulfuron	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triazophos	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tribenuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triclopyr	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triclosan	µg/L	0.050		<0.100	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050	<0.100	<0.050	<0.050	<0.050
Tricyclazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifloxysulfuron-sodium	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triflusulfuron-methyl	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triforine	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triticonazole	µg/L	0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Picloram (W-PESLMS04 Method)	µg/L			<0.050	-	-	<0.050	<0.050	-	-	<0.050	<0.050	-	-	<0.050
Propoxycarbazone-sodium (W-PESLMS04 Method)	µg/L			<0.050	-	-	<0.050	<0.050	-	-	<0.050	<0.050	-	-	<0.050
Sum of 3 tetrachlorobenzenes (M1)	µg/L	0.0150		-	<0.0150	-	-	-	<0.0150	-	-	-	<0.0150	-	-
Sum of 4 hexachlorocyclohexanes (M1)	µg/L	0.020		-	<0.020	-	-	-	<0.020	-	-	-	<0.020	-	-
Sum of 4 isomers DDT (M1)	µg/L	0.020		-	<0.020	-	-	-	<0.020	-	-	-	<0.020	-	-
Sum of 6 isomers DDT (M1)	µg/L	0.030		-	<0.030	-	-	-	<0.030	-	-	-	<0.030	-	-
Chloridazon-methyl desphenyl	µg/L			-	-	-	<0.050	-	-	-	<0.050	-	-	-	<0.050

Comments
#1 CW/WE Water. GTV - Ireland - Source: *Ireland GTVs 2016*
#2 CW/WE Water. Aquatic Toxicity - Ireland - Freshwater - Source: *SEPA WAT-SG-53 Fresh EQS - AA - 2015*
#3 CW/WE Water. Aquatic Toxicity - Ireland - Transitional/Coastal - Source: *SEPA WAT-SG-53 Marine EQS - AA - 2015*
#4 CW/WE Water. DWS - Ireland - Source: *Ireland GTVs 2016*

Appendix C - Table 6A: QA/QC Rinsate (Pesticide Results)

Sample ID	QC101	QC101	QC101	QC201
Rinsate	DI Water	DI Water	DI Water	DI Water
Media	VanVeen Sampler	Bailer	Bailer	VanVeen Sampler
Lab Sample ID	PR2155273038	PR2183443055	PR21B7695001	PR2183443069
Sample Date	08/06/2021	26/08/2021	01/12/2021	27/08/2021
Organochlorine Pesticides	Units			
1,2,3,4-Tetrachlorobenzene	µg/L	<0.010	<0.010	<0.010	<0.010
1,2,3,5- & 1,2,4,5-Tetrachlorobenzene	µg/L	<0.020	<0.020	<0.020	<0.020
2,4-DDD	µg/L	<0.010	<0.010	<0.010	<0.010
2,4-DDE	µg/L	<0.010	<0.010	<0.010	<0.010
2,4-DDT	µg/L	<0.010	<0.010	<0.010	<0.010
4,4'-DDD	µg/L	<0.010	<0.010	<0.010	<0.010
4,4'-DDE	µg/L	<0.010	<0.010	<0.010	<0.010
4,4'-DDT	µg/L	<0.010	<0.010	<0.010	<0.010
Alachlor	µg/L	<0.010	<0.010	<0.010	<0.010
Aldrin	µg/L	<0.0050	<0.0050	<0.0050	<0.0050
Chlordane-cis	µg/L	<0.010	<0.010	<0.010	<0.010
Chlordane-trans	µg/L	<0.010	<0.010	<0.010	<0.010
Dichlobenil	µg/L	<0.050	<0.050	<0.050	<0.050
Dieldrin	µg/L	<0.010	<0.010	<0.010	<0.010
Endosulfan sulfate	µg/L	<0.010	<0.010	<0.010	<0.010
Endrin	µg/L	<0.010	<0.010	<0.010	<0.010
Endrin aldehyde	µg/L	<0.030	<0.030	<0.030	<0.030
Endrin ketone	µg/L	<0.030	<0.030	<0.030	<0.030
Heptachlor	µg/L	<0.010	<0.010	<0.010	<0.010
Heptachlorepoxide-cis	µg/L	<0.010	<0.010	<0.010	<0.010
Heptachlorepoxide-trans	µg/L	<0.010	<0.010	<0.010	<0.010
Hexachlorobenzene (HCB)	µg/L	<0.0050	<0.0050	<0.0050	<0.0050
Hexachlorobutadiene	µg/L	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Alpha	µg/L	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Beta	µg/L	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Delta	µg/L	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Epsilon	µg/L	<0.010	<0.010	<0.010	<0.010
Hexachlorocyclohexane Gamma	µg/L	<0.010	<0.010	<0.010	<0.010
Hexachloroethane	µg/L	<0.010	<0.010	<0.010	<0.010
Isodrin	µg/L	<0.010	<0.010	<0.010	<0.010
Methoxychlor	µg/L	<0.010	<0.010	<0.010	<0.010
Mirex	µg/L	<0.010	<0.010	<0.010	<0.010
Nonachlor-cis	µg/L	<0.010	<0.010	<0.010	<0.010
Nonachlor-trans	µg/L	<0.010	<0.010	<0.010	<0.010
Oxychlordane	µg/L	<0.010	<0.010	<0.010	<0.010
Pentachlorobenzene	µg/L	<0.010	<0.010	<0.010	<0.010
Sum of 3 tetrachlorobenzenes	µg/L	<0.030	<0.030	<0.030	<0.030
Sum of 4 hexachlorocyclohexanes	µg/L	<0.040	<0.040	<0.040	<0.040
Sum of 4 isomers DDT	µg/L	<0.040	<0.040	<0.040	<0.040
Sum of 6 isomers DDT	µg/L	<0.060	<0.060	<0.060	<0.060
Telodrin	µg/L	<0.010	<0.010	<0.010	<0.010
Tolfluralin	µg/L	<0.010	<0.010	<0.010	<0.010
alpha-Endosulfan	µg/L	<0.010	<0.010	<0.010	<0.010
beta-Endosulfan	µg/L	<0.010	<0.010	<0.010	<0.010
PBBs	µg/L	<0.010	<0.010	<0.010	<0.010
PBB 153					

Appendix C - Table 6A QA/QC Rinsate (Pesticide Results)

Sample ID	QC101	QC101	QC101	QC201
Rinsate	DI Water	DI Water	DI Water	DI Water
Media	VanVeen Sampler	Bailer	Bailer	VanVeen Sampler
Lab Sample ID	PR2155273038	PR2183443055	PR21B7695001	PR2183443069
Sample Date	08/06/2021	26/08/2021	01/12/2021	27/08/2021
Pesticides	µg/L	<0.050	<0.050	<0.050	<0.050
1-(3,4-Dichlorophenyl) urea (DCPU)	µg/L	-	<0.500	<0.500	<0.200
2,3,6-Trichlorobenzoic acid	µg/L	<0.050	<0.050	<0.050	<0.050
2-Chloro-2,6-diethylacetanilide	µg/L	-	<0.050	<0.050	<0.050
2-Methylsulfonyl-4-trifluoromethyl benzoic acid	µg/L	<0.050	<0.050	<0.050	<0.050
2-amino-N-(isopropyl)benzamide	µg/L	<0.050	<0.050	<0.050	<0.050
2,4-D	µg/L	<0.050	<0.050	<0.050	<0.050
2,4-DB	µg/L	<0.050	<0.050	<0.050	<0.050
2,4-DP (isomers)	µg/L	<0.050	<0.050	<0.050	<0.050
2,4,5-T	µg/L	<0.050	<0.050	<0.050	<0.050
2,4,5-TP	µg/L	<0.050	<0.050	<0.050	<0.050
4-CPP	µg/L	-	<0.050	<0.050	<0.050
6-Chloroquinoxaline-2,3-diol	µg/L	<0.050	<0.050	<0.050	<0.050
Acetamiprid	µg/L	<0.050	<0.050	<0.050	<0.050
Acetochlor	µg/L	<0.050	<0.050	<0.050	<0.050
Acibenzolar-S-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Acifluorfen	µg/L	<0.050	<0.050	<0.050	<0.050
Aclonifen	µg/L	<0.050	<0.050	<0.050	<0.050
Alachlor	µg/L	<0.050	<0.050	<0.050	<0.050
Aldicarb	µg/L	<0.050	<0.050	<0.050	<0.050
Aldicarb sulfone	µg/L	<0.050	<0.050	<0.050	<0.050
Ametryn	µg/L	<0.050	<0.050	<0.050	<0.050
Amidosulfuron	µg/L	<0.050	<0.050	<0.050	<0.100
Aminopyralid	µg/L	<0.050	<0.050	<0.050	<0.050
Ateaton	µg/L	<0.050	<0.050	<0.050	<0.050
Atrazine	µg/L	<0.050	<0.050	<0.050	<0.050
Atrazine-2-hydroxy	µg/L	<0.050	<0.050	<0.050	<0.050
Atrazine-desethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Atrazine-desisopropyl	µg/L	<0.050	<0.050	<0.050	<0.050
Azinphos-ethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Azinphos-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Azoxystrobin	µg/L	<0.050	<0.050	<0.050	<0.050
BAM	µg/L	<0.050	<0.050	<0.050	<0.050
BDMC	µg/L	<0.050	<0.050	<0.050	<0.050
Benalaxyl	µg/L	-	<0.050	<0.050	<0.050
Benazolin	µg/L	<0.050	<0.050	<0.050	<0.050
Bendiocarb	µg/L	<0.050	<0.050	<0.050	<0.050
Bentazone	µg/L	<0.050	<0.050	<0.050	<0.050
Bentazone methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Bifenox	µg/L	<0.050	<0.050	<0.050	<0.050
Bitertanol	µg/L	<0.050	<0.050	<0.050	<0.050
Boscalid	µg/L	<0.050	<0.050	<0.050	<0.050
Bromacil	µg/L	<0.050	<0.050	<0.050	<0.050
Bromophos-ethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Bromoxynil	µg/L	<0.050	<0.050	<0.050	<0.050
Cadusafos	µg/L	<0.050	<0.050	<0.050	<0.050
Carbaryl	µg/L	<0.050	<0.050	<0.050	<0.050
Carbendazim	µg/L	<0.050	<0.050	<0.050	<0.050
Carbetamide	µg/L	<0.050	<0.050	<0.050	<0.050
Carbofuran	µg/L	<0.050	<0.050	<0.050	<0.050
Carbofuran-3-hydroxy	µg/L	<0.050	<0.050	<0.050	<0.050
Carboxin	µg/L	<0.050	<0.050	<0.050	<0.050
Carfentrazone-ethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Chlorbromuron	µg/L	<0.050	<0.050	<0.050	<0.050
Chlorfenvinphos	µg/L	<0.050	<0.050	<0.050	<0.050
Chloridazon	µg/L	<0.050	<0.050	<0.050	<0.050
Chloridazon-desphenyl	µg/L	<0.050	<0.050	<0.050	<0.050
Chlorotoluron	µg/L	<0.050	<0.050	<0.050	<0.050
Chlorotoluron-desmethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Chloroxuron	µg/L	<0.050	<0.050	<0.050	<0.050
Chlorpropham	µg/L	<0.0500	<0.0500	<0.0500	<0.0500
Chlorpyrifos	µg/L	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Chlorsulfuron	µg/L	<0.050	<0.050	<0.050	<0.050
Clodinafop	µg/L	<0.050	<0.050	<0.050	<0.050
Clomazone	µg/L	<0.050	<0.050	<0.050	<0.050
Clomeprop	µg/L	<0.050	<0.050	<0.050	<0.050
Clopyralid	µg/L	<0.050	<0.050	<0.050	<0.050
Clothianidin	µg/L	<0.050	<0.050	<0.050	<0.050
Coumaphos	µg/L	<0.050	<0.050	<0.050	<0.050
Cinmidine	µg/L	<0.050	<0.050	<0.050	<0.050
Cyanazine	µg/L	<0.050	<0.050	<0.050	<0.050
Cybutryne (irgarol)	µg/L	<0.050	<0.050	<0.050	<0.050
Cymoxanil	µg/L	<0.050	<0.050	<0.050	<0.050
Cypazine	µg/L	<0.050	<0.050	<0.050	<0.050
Cyproconazole	µg/L	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 6A: QA/QC Rinsate (Pesticide Results)

Sample ID	QC101	QC101	QC101	QC201
Rinsate	DI Water	DI Water	DI Water	DI Water
Media	VanVeen Sampler	Bailer	Bailer	VanVeen Sampler
Lab Sample ID	PR2155273038	PR2183443055	PR21B7695001	PR2183443069
Sample Date	08/06/2021	26/08/2021	01/12/2021	27/08/2021
Cyprodinil	µg/L	<0.050	<0.050	<0.050	<0.050
Cyromazine	µg/L	<0.050	<0.050	<0.050	<0.050
DNOC	µg/L	<0.050	<0.050	<0.050	<0.050
Desmetryn	µg/L	<0.050	<0.050	<0.050	<0.050
Diazinon	µg/L	<0.050	<0.050	<0.050	<0.050
Dicamba	µg/L	<0.050	<0.050	<0.050	<0.050
Dichlofenthion	µg/L	<0.050	<0.050	<0.050	<0.050
Dichlormid	µg/L	<0.050	<0.050	<0.050	<0.050
Dichlorvos	µg/L	<0.050	<0.050	<0.050	<0.050
Diclofop	µg/L	<0.050	<0.050	<0.050	<0.050
Dicrotophos	µg/L	<0.050	<0.050	<0.050	<0.050
Diethofencarb	µg/L	<0.050	<0.050	<0.050	<0.050
Difenacoum	µg/L	<0.050	<0.050	<0.050	<0.050
Difenoconazole	µg/L	<0.050	<0.050	<0.050	<0.050
Difenoxuron	µg/L	<0.050	<0.050	<0.050	<0.050
Diflubenzuron	µg/L	<0.050	<0.050	<0.050	<0.050
Diflufenican	µg/L	<0.050	<0.050	<0.050	<0.050
Dimefuron	µg/L	<0.050	<0.050	<0.050	<0.050
Dimethachlor	µg/L	<0.050	<0.050	<0.050	<0.050
Dimethenamid	µg/L	<0.050	<0.050	<0.050	<0.050
Dimethoate	µg/L	<0.050	<0.050	<0.050	<0.050
Dimethomorph	µg/L	<0.050	<0.050	<0.050	<0.050
Dinoseb	µg/L	-	<0.050	<0.150	<0.050
Dinoterb	µg/L	<0.050	<0.050	<0.050	<0.050
Diuron	µg/L	<0.050	<0.050	<0.050	<0.050
Diuron desmethyl (DCPMU)	µg/L	<0.050	<0.050	<0.050	<0.050
EPTC	µg/L	<0.050	<0.050	<0.050	<0.050
Epoxiconazole	µg/L	<0.050	<0.050	<0.050	<0.050
Ethiofencarb	µg/L	<0.050	<0.050	<0.050	<0.050
Ethion	µg/L	<0.050	<0.050	<0.050	<0.050
Ethofumesate	µg/L	<0.050	<0.050	<0.050	<0.050
Ethoprophos	µg/L	<0.050	<0.050	<0.050	<0.050
Fenamiphos	µg/L	<0.050	<0.050	<0.050	<0.050
Fenarimol	µg/L	<0.050	<0.050	<0.050	<0.050
Fenhexamid	µg/L	<0.050	<0.050	<0.050	<0.050
Fenoxaprop	µg/L	<0.050	<0.050	<0.050	<0.050
Fenoxycarb	µg/L	<0.050	<0.050	<0.050	<0.050
Fenpropidin	µg/L	<0.050	<0.050	<0.050	<0.050
Fenpropimorph	µg/L	<0.050	<0.050	<0.050	<0.050
Fensulfothion	µg/L	<0.050	<0.050	<0.050	<0.050
Fenuron	µg/L	<0.050	<0.050	<0.050	<0.050
Fipronil	µg/L	<0.050	<0.050	<0.050	<0.050
Flonasulam	µg/L	<0.050	<0.050	<0.050	<0.050
Fluazifop	µg/L	<0.050	<0.050	<0.050	<0.050
Fluazifop-butyl (isomers)	µg/L	<0.050	<0.050	<0.050	<0.050
Fluroxypyr	µg/L	<0.050	<0.050	<0.050	<0.050
Flusilazole	µg/L	<0.050	<0.050	<0.050	<0.050
Flutolanil	µg/L	<0.050	<0.050	<0.050	<0.050
Fonofos	µg/L	<0.050	<0.050	<0.050	<0.050
Foramsulfuron	µg/L	<0.050	<0.050	<0.050	<0.050
Furathiocarb	µg/L	<0.050	<0.050	<0.050	<0.050
Haloxyfop	µg/L	<0.050	<0.050	<0.050	<0.050
Haloxyfop-methyl (isomers)	µg/L	<0.050	<0.050	<0.050	<0.050
Hexaconazole	µg/L	<0.050	<0.050	<0.050	<0.050
Hexazinone	µg/L	<0.050	<0.050	<0.050	<0.050
Hexythiazox	µg/L	<0.050	<0.050	<0.050	<0.050
Imazalil	µg/L	<0.050	<0.050	<0.050	<0.050
Imazamethabenz-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Imazamox	µg/L	<0.050	<0.050	<0.050	<0.050
Imazethapyr	µg/L	<0.050	<0.050	<0.050	<0.050
Imidacloprid	µg/L	<0.050	<0.050	<0.050	<0.050
Indoxacarb	µg/L	<0.050	<0.050	<0.050	<0.050
Ioxynil	µg/L	<0.050	<0.050	<0.050	<0.050
Iprodione	µg/L	<0.050	<0.050	<0.050	<0.050
Iprovalicarb	µg/L	<0.050	<0.050	<0.050	<0.050
Isoproturon	µg/L	<0.050	<0.050	<0.050	<0.050
Isoproturon-desmethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Isoproturon-monodesmethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Isopyrazam	µg/L	<0.050	<0.500	<0.050	<0.050
Kresoxim-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Lenacil	µg/L	<0.050	<0.050	<0.050	<0.050
Linuron	µg/L	<0.050	<0.050	<0.050	<0.050
MCPA	µg/L	<0.050	<0.050	<0.050	<0.050
MCPB	µg/L	<0.050	<0.050	<0.050	<0.050
MCPP (isomers)	µg/L	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 6A: QA/QC Rinsate (Pesticide Results)

Sample ID		QC101	QC101	QC101	QC201
Rinsate		DI Water	DI Water	DI Water	DI Water
Media		VanVeen Sampler	Bailer	Bailer	VanVeen Sampler
Lab Sample ID		PR2155273038	PR2183443055	PR21B7695001	PR2183443069
Sample Date		08/06/2021	26/08/2021	01/12/2021	27/08/2021
Malaoxon	µg/L	<0.050	<0.050	<0.050	<0.050
Malathion	µg/L	<0.050	<0.050	<0.050	<0.050
Mandipropamid	µg/L	<0.050	<0.050	<0.050	<0.050
Mecarbam	µg/L	<0.050	<0.050	<0.050	<0.050
Mefenpyr-diethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Mesosulfuron-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Mesotrione	µg/L	<0.050	<0.050	<0.050	<0.050
Metalaxyl (isomers)	µg/L	<0.050	<0.050	<0.050	<0.050
Metamitron	µg/L	<0.050	<0.050	<0.050	<0.050
Metazachlor	µg/L	<0.050	<0.050	<0.050	<0.050
Metconazole	µg/L	<0.050	<0.050	<0.050	<0.050
Methabenzthiazuron	µg/L	<0.050	<0.050	<0.050	<0.050
Methamidophos	µg/L	<0.050	<0.050	<0.050	<0.050
Methidathion	µg/L	<0.050	<0.050	<0.050	<0.050
Methiocarb	µg/L	<0.050	<0.050	<0.050	<0.050
Methomyl	µg/L	<0.050	<0.050	<0.050	<0.050
Methoxyfenozide	µg/L	<0.050	<0.050	<0.050	<0.050
Metobromuron	µg/L	<0.050	<0.050	<0.050	<0.050
Metolachlor (isomers)	µg/L	<0.050	<0.050	<0.050	<0.050
Metoxuron	µg/L	-	<0.050	<0.050	<0.050
Metribuzin	µg/L	-	<0.050	<0.050	<0.050
Metribuzin-desamino	µg/L	<0.050	<0.050	<0.050	<0.050
Metribuzin-desamino diketo	µg/L	<0.050	<0.050	<0.050	<0.050
Metribuzin-diketo	µg/L	<0.050	<0.050	<0.050	<0.050
Metsulfuron-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Molinate	µg/L	<0.050	<0.050	<0.050	<0.050
Monocrotophos	µg/L	<0.050	<0.050	<0.050	<0.050
Monolinuron	µg/L	<0.050	<0.050	<0.050	<0.050
Monuron	µg/L	<0.050	<0.050	<0.050	<0.050
Napropamide	µg/L	<0.050	<0.050	<0.050	<0.050
Napropamide	µg/L	<0.050	<0.050	<0.050	<0.050
Neburon	µg/L	<0.050	<0.050	<0.050	<0.050
Nicosulfuron	µg/L	<0.050	<0.050	<0.050	<0.050
Nuarimol	µg/L	<0.050	<0.050	<0.050	<0.050
Omethoate	µg/L	<0.050	<0.050	<0.050	<0.050
Oxadixyl	µg/L	<0.050	<0.050	<0.050	<0.050
Oxamyl	µg/L	<0.050	<0.050	<0.050	<0.050
Paclobutrazol	µg/L	<0.050	<0.050	<0.050	<0.050
Paraoxon-ethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Paraoxon-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Parathion-ethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Penconazole	µg/L	<0.050	<0.050	<0.050	<0.050
Pencycuron	µg/L	<0.050	<0.050	<0.050	<0.050
Pendimethalin	µg/L	<0.050	<0.050	<0.050	<0.050
Phorate	µg/L	<0.050	<0.050	<0.050	<0.050
Phosalone	µg/L	<0.050	<0.050	<0.050	<0.050
Phosmet	µg/L	<0.050	<0.050	<0.050	<0.050
Phosphamidon	µg/L	<0.050	<0.050	<0.050	<0.050
Picloram	µg/L	<0.050	<0.050	<0.050	<0.050
Picoxystrobin	µg/L	<0.050	<0.050	<0.050	<0.050
Pirimicarb	µg/L	<0.050	<0.050	<0.050	<0.050
Pirimiphos-ethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Pirimiphos-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Pretilachlor	µg/L	<0.050	<0.050	<0.050	<0.050
Primisulfuron-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Prochloraz	µg/L	<0.050	<0.050	<0.050	<0.050
Prodiamine	µg/L	<0.050	<0.050	<0.050	<0.050
Profenofos	µg/L	<0.050	<0.050	<0.050	<0.050
Promecarb	µg/L	<0.050	<0.050	<0.050	<0.050
Prometon	µg/L	<0.050	<0.050	<0.050	<0.050
Prometryn	µg/L	<0.050	<0.050	<0.050	<0.050
Propachlor	µg/L	<0.050	<0.050	<0.050	<0.050
Propamocarb	µg/L	<0.050	<0.050	<0.050	<0.050
Propanil	µg/L	<0.050	<0.050	<0.050	<0.050
Propaquizafop	µg/L	<0.050	<0.050	<0.050	<0.050
Propazine	µg/L	<0.050	<0.050	<0.050	<0.050
Propham	µg/L	<0.050	<0.050	<0.050	<0.050
Propiconazole	µg/L	<0.050	<0.050	<0.050	<0.050
Propoxur	µg/L	<0.050	<0.050	<0.050	<0.050
Propoxycarbazone-sodium	µg/L	<0.050	<0.050	<0.050	<0.050
Propyzamide	µg/L	<0.050	<0.050	<0.050	<0.050
Prosulfocarb	µg/L	<0.050	<0.050	<0.050	<0.050
Prothioconazole	µg/L	<0.050	<0.050	<0.050	<0.050
Pyribenzoxim	µg/L	<0.050	<0.050	<0.050	<0.050
Pyrimethanil	µg/L	<0.050	<0.050	<0.050	<0.050

Appendix C - Table 6A: QA/QC Rinsate (Pesticide Results)

	Sample ID	QC101	QC101	QC101	QC201
	Rinsate	DI Water	DI Water	DI Water	DI Water
	Media	VanVeen Sampler	Bailer	Bailer	VanVeen Sampler
	Lab Sample ID	PR2155273038	PR2183443055	PR21B7695001	PR2183443069
	Sample Date	08/06/2021	26/08/2021	01/12/2021	27/08/2021
Pyriproxifen	µg/L	<0.050	<0.050	<0.050	<0.050
Quinclorac	µg/L	<0.050	<0.050	<0.050	<0.050
Quinmerac	µg/L	<0.050	<0.050	<0.050	<0.050
Quinoxyfen	µg/L	<0.050	<0.050	<0.050	<0.050
Quizalofop	µg/L	<0.050	<0.050	<0.050	<0.050
Rimsulfuron	µg/L	<0.050	<0.050	<0.050	<0.050
Sebuthylazine	µg/L	<0.050	<0.050	<0.050	<0.050
Secbumeton	µg/L	<0.050	<0.050	<0.050	<0.050
Sethoxydim	µg/L	<0.050	<0.050	<0.050	<0.050
Simazine	µg/L	<0.050	<0.050	<0.050	<0.050
Simazine-2-hydroxy	µg/L	<0.050	<0.050	<0.050	<0.050
Simetryn	µg/L	<0.050	<0.050	<0.050	<0.050
Spiroxamine	µg/L	<0.050	<0.050	<0.050	<0.050
Sulfosulfuron	µg/L	<0.050	<0.050	<0.050	<0.050
Tebuconazole	µg/L	<0.050	<0.050	<0.050	<0.050
Tebuthiuron	µg/L	<0.050	<0.050	<0.050	<0.050
Teflubenzuron	µg/L	<0.050	<0.050	<0.050	<0.050
Terbuthylazine	µg/L	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl	µg/L	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-desethyl-2-hydroxy	µg/L	<0.050	<0.050	<0.050	<0.050
Terbuthylazine-hydroxy	µg/L	<0.050	<0.050	<0.050	<0.050
Terbutryn	µg/L	<0.050	<0.050	<0.050	<0.050
Thiabendazole	µg/L	<0.050	<0.050	<0.050	<0.050
Thiamethoxam	µg/L	<0.050	<0.050	<0.050	<0.050
Thifensulfuron-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Thiobencarb	µg/L	<0.050	<0.050	<0.050	<0.050
Thiophanate-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Tri-allate	µg/L	<0.050	<0.050	<0.050	<0.050
Triadimefon	µg/L	<0.050	<0.050	<0.050	<0.050
Triadimenol	µg/L	<0.050	<0.050	<0.050	<0.050
Tribasulfuron	µg/L	<0.050	<0.050	<0.050	<0.050
Triazophos	µg/L	<0.050	<0.050	<0.050	<0.050
Tribenuron-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Triclopyr	µg/L	<0.050	<0.050	<0.050	<0.050
Triclosan	µg/L	<0.050	<0.050	<0.050	<0.050
Tricyclazole	µg/L	<0.050	<0.050	<0.050	<0.050
Trifloxysulfuron-sodium	µg/L	<0.050	<0.050	<0.050	<0.050
Triflusulfuron-methyl	µg/L	<0.050	<0.050	<0.050	<0.050
Trifolrine	µg/L	<0.050	<0.050	<0.050	<0.050
Triticonazole	µg/L				
Picloram (W-PESLMS04 Method)	µg/L				
Propoxycarbazone-sodium (W-PESLMS04 Method)	µg/L		<0.0150		<0.0150
Sum of 3 tetrachlorobenzenes (MI)	µg/L		<0.020		<0.020
Sum of 4 hexachlorocyclohexanes (MI)	µg/L		<0.020		<0.020
Sum of 4 isomers DDT (MI)	µg/L		<0.030		<0.030
Sum of 6 isomers DDT (MI)	µg/L				
Chlordiazon-methyl desphenyl					

Appendix C - Table 6B: QA/QC Rinsate (PFAS Results)

		QC101	QC101	QC101	QC102	QC101	QC101	QC101	QC101
	Rinsate	DI Water	DI Water	DI Water	DI Water	DI Water	DI Water	DI Water	DI Water
	Media	Van Veen Sampler	Bailer	Bailer	Van Veen Sampler	Bailer	Bailer	Bailer	Van Veen Sampler
	Laboratory Sample ID	PR2155273016	PR2183443040	PR2183443064	PR2183443068	PR21B7051016	PR21B7676003	PR2217901016	PR2217901041
	Sample Date	09/06/2021	26/08/2021		27/08/2021	23/11/2021		22/02/2022	23/02/2022
	Sample Location	RS_SW05	RS_SW01		RB_SW06	RS_SW04		RS_SW04	RB_SW06
Perfluorinated Compounds									
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutane sulfonic acid (PFBS)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorobutanoic acid (PFBA)	µg/L	<0.010	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecane sulfonic acid (PFDS)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorodecanoic acid (PFDA)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorododecanoic acid (PFDoDA)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroheptanoic acid (PFHpA)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexane sulfonic acid (PFHxS)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorohexanoic acid (PFHxA)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorononanoic acid (PFNA)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonamide (FOSA)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluorooctane sulfonic acid (PFOS)	µg/L	<0.0100	<0.0100	0.0184	<0.0100	0.0332	<0.0100	<0.0100	<0.0100
Perfluorooctanoic acid (PFOA)	µg/L	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Perfluoropentanoic acid (PFPeA)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Perfluoroundecanoic acid (PFUnDA)	µg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

Appendix C - Table 7: QA/QC Duplicate PFAS Results

			River Bosna RPD Duplicate Analysis											
			Secondary Sample	Primary Sample	RPD %	Secondary Sample	Primary Sample	RPD %	Secondary Sample	Primary Sample	RPD %	Secondary Sample	Primary Sample	RPD %
			RB_QC201	RB_SW05		RB_QC201	RB_SW06		RB_QC201	RB_SW03		RB_QC201	RB_SW06	
		Laboratory Sample ID	PR2155273015	PR2155273012		PR2183443039	PR2183443037		PR2187051015	PR2187051010		PR2217901015	PR2217901046	
		Client Sampling Date	10/06/2021			27/08/2021			24/11/2021			24/02/2022		
Parameter	Units	MDL												
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorobutanoic acid (PFBA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorodecanoic acid (PFDA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorododecanoic acid (PFDoDA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluoroheptanoic acid (PFHpA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorohexanoic acid (PFHxA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorononanoic acid (PFNA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorooctane sulfonamide (FOSA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0100	<0.0100	<0.0100	N/A	<0.0100	<0.0100	N/A	<0.0100	<0.0100	N/A	<0.0100	<0.0100	N/A
Perfluorooctanoic acid (PFOA)	µg/L	0.0100	0.0315	0.0346	9.379727685	<0.0100	<0.0100	N/A	0.0131	0.0108	-19.24686192	<0.0100	<0.0100	N/A
Perfluoropentanoic acid (PFPeA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A

Appendix C - Table 7: QA/QC Duplicate PFAS Results

			River Shannon RPD Duplicate Analysis												
			Secondary Sample	Primary Sample	RPD %	Secondary Sample	Primary Sample	RPD %	Secondary Sample	Primary Sample	RPD %	Secondary Sample	Primary Sample	RPD %
			RS_QC201	RS_SW04		RS_QC201	RS_SW07		RS_QC201	RS_SW07		RS_QC201	RS_SW07	
		Laboratory Sample ID	PR2155273014	PR2155273004		PR2183443038	PR2183443042		PR2187051014	PR2187051053		PR2217901014	PR2217901047	
		Client Sampling Date	08/06/2021			25/08/2021			23/11/2021			22/02/2022		
Parameter	Units	MDL												
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorobutanoic acid (PFBA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.020	<0.010	N/A	<0.010	<0.010	N/A
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorodecanoic acid (PFDA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorododecanoic acid (PFDoDA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluoroheptanoic acid (PFHpA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorohexanoic acid (PFHxA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorononanoic acid (PFNA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorooctane sulfonamide (FOSA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.0100	<0.0100	<0.0100	N/A	<0.0100	<0.0100	N/A	<0.0100	<0.0100	N/A	<0.0100	<0.0100	N/A
Perfluorooctanoic acid (PFOA)	µg/L	0.0100	<0.0100	<0.0100	N/A	<0.0100	<0.0100	N/A	<0.0100	<0.0100	N/A	<0.0100	<0.0100	N/A
Perfluoropentanoic acid (PFPeA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.010	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A	<0.010	<0.010	N/A

Appendix D Laboratory Certificates

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