# A303 Amesbury to Berwick Down

## Applicant's provision of technical reports supporting the Environmental Information Review

Stage 1, Tier 2 Land Contamination Assessment Report

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# Foreword

The A303 Amesbury to Berwick Down scheme ("the Scheme") forms part of a package of proposals for the A303/A358 corridor, improving this vital connection between the South West and London and the South East and including the upgrade of remaining single carriageway sections on the route to dual carriageway. This investment is stated as a priority project in the National Infrastructure Plan and Government's commitment is confirmed in the Road Investment Strategy (2020-2025).

Objectives for the Scheme have been formulated both to address identified problems and to take advantage of the opportunities that new infrastructure would provide. The objectives are defined by the Department for Transport ("DfT"): Client Scheme Requirements.

- **Transport** - To create a high quality reliable route between the South East and the South West that meets the future needs of traffic;
- **Economic Growth** - to enable growth in jobs and housing by providing a free flowing and reliable connection between the South East and the South West;
- **Cultural Heritage** - To help conserve and enhance the World Heritage Site and to make it easier to reach and explore; and
- **Environment and Community** - To improve biodiversity and provide a positive legacy for nearby communities.

The objectives would be achieved by providing a high quality, two-lane dual carriageway on the A303 trunk road between Amesbury and Berwick Down in Wiltshire.

The Scheme would resolve traffic problems and, at the same time, protect and enhance the World Heritage Site (WHS). Key components comprise:

a) A bypass to the north of Winterbourne Stoke with a viaduct over the River Till valley;

b) A new junction between the A303 and A360 to the west of and outside the World Heritage Site, replacing the existing Longbarrow roundabout;

c) A twin-bore tunnel approximately 3km in length past Stonehenge;

d) A new flyover at Countess roundabout.

# Executive Summary

This report provides a Stage 1, Tier 2 land contamination risk assessment for the A303 – Amesbury to Berwick Down scheme. The assessment seeks to quantify soil and groundwater geochemical sample data recovered from across the Scheme with specific reference to the key potential contaminated sites that were identified and described in Chapter 10 of the ES. It is recommended that this report is read in conjunction with Chapter 10 of the Environmental Statement submitted as part of the Development Consent Order (DCO) application.

All available and applicable soil and groundwater geochemical sample data recovered from across eleven phases of ground investigation completed between 2001 and 2021 along the A303 Amesbury and Berwick Down Scheme and relevant groundwater data obtained from the long-term monitoring programme well locations between January 2018 and January 2021 have been used in the assessment.

The DCO includes a requirement to undertake a risk assessment where works are proposed on, or within 50m of, a known or potential contaminated site. The Environment Agency also requested that all potential controlled water receptors are considered as part of the assessment regardless of distance and not just those within 50m of the potential contaminated site.

For the purposes of this assessment, the Scheme has been divided into four assessment areas. These are:

- Area 1 – Western Limit to Winterbourne Stoke (Chainage 0 to 4800);
- Area 2 – Longbarrow Junction (Chainage 4800 to 7200);
- Area 3 – Western Tunnel Portal to Eastern Tunnel Portal to (Chainage 7200 to 10500); and
- Area 4 – Eastern Tunnel Portal to East of Countess Junction (Chainage 10500 to 12572).

## Geology, hydrogeology, and hydrology

Made Ground is anticipated to be present in areas of previous and existing development and along existing highways. There is also the possibility for Made Ground associated with infilled ground in discrete places.

River Terrace Deposits, Alluvium and Peat associated with the River Avon are present in the eastern part of the Scheme (Area 4). Alluvium surrounds the channel of the River Till towards the west of the Scheme (Area 1). Head Deposits are also present within the study area.

The River Terrace Deposits and Alluvium are Secondary, A aquifers, the Head Deposits are Secondary (undifferentiated) and the Peat is unproductive strata.

The bedrock comprises a succession of the Upper Cretaceous Chalk group, including the Newhaven (which is known to contain distinct Phosphatic Chalk of limited lateral extent) and Seaford Chalk Formations. A fault line forms the eastern boundary of the Newhaven Chalk Formation (Area 3) and trends in a north-south direction. The Chalk is a Principal aquifer.

There are four licensed public drinking water supply sources located beyond the Scheme boundary but within 1 km of the Scheme. The groundwater Source Protection Zones (SPZ) for these public drinking water supply abstractions are applicable to the study area. One SPZ is located 600 to 830m from the Scheme boundary (Area 1) with the remaining three are applicable to Area 4. These are located within the Scheme boundary and 400 m north and 6.7km to the south.

There are understood to be eight active licensed groundwater abstractions within 1km of the Scheme at the time of writing, which are all understood to be sourcing groundwater from the Chalk.

During the phases of ground investigation undertaken, the recorded groundwater strikes in the Chalk were between 6.1m and 46m depth (56.8 and 101.5m aOD). During the groundwater monitoring programme, groundwater levels were recorded in monitoring wells across the Scheme at between 60m and 90m aOD.

Groundwater flow in the Chalk aquifer in the Scheme area is generally from north to south with flow at high groundwater levels converging towards the River Till in the west of the study area and towards the River Avon in the east of the study area. The groundwater discharges naturally as baseflow to the rivers.

The groundwater monitoring programme elevation data indicate that groundwater flow direction varies seasonally. Flow is generally north-south at lower groundwater levels discharging to the River Avon and at high groundwater levels, flow is inferred to be towards the south east on the eastern side of Stonehenge Bottom to the River Avon and on the western interfluve (Stonehenge Down) groundwater flow is inferred to be more to the south west towards the River Till.

The main surface water bodies associated with the Scheme are the River Till (Area 1) and the River Avon (Area 4). There are also springs. Elevated dissolved phosphorus is a key reason for the surface water bodies of the River Avon and River Till failing to achieve “good status” classification under WFD.

## Ground Investigation data

A total of eleven phases of ground investigation have been undertaken between 2000 and 2020 which included chemical sampling and analysis. This included the following number of exploratory locations within each of the four assessment areas:

- Area 1 – 24 exploratory locations;
- Area 2 – 32 exploratory locations;
- Area 3 – 29 exploratory locations; and
- Area 4 – 50 exploratory locations.

A total of 193 soil samples and 19 groundwater samples were subjected to chemical analysis as part of these investigations. Of the soil samples obtained 58 soil leachate analysis tests were also undertaken. A total of 92 groundwater samples collected from 13 wells between 2018 and 2021 were also obtained as part of the groundwater monitoring programme.

The chemical testing analysis generally included a combination of the following testing suites:

- Metals, Inorganics;
- Total Petroleum Hydrocarbons (TPH, Volatile Organic Compounds (VOC), Polycyclic Aromatic Hydrocarbons (PAH), Semi-volatile Organic Compounds (SVOC), Polychlorinated Biphenyls (PCB);
- Herbicides and Pesticides;
- Explosives;
- Asbestos;
- biological (coliforms, E.coli); and
- dissolved gases.

### Initial Conceptual Site Model

An initial Conceptual Site Model (CSM) for the Scheme was developed as part of the ES. This included the identification of sources, pathways, and receptors to assess the potential risk posed by a potential source to a receptor via a pathway (a potential contaminant linkage, i.e. a mechanism whereby a source could impact on a sensitive receptor).

The key receptors identified included human health, surface water and groundwater, groundwater and surface water abstractions, Source Protection Zones, buried services and underground structures and ecological and cultural heritage sites.

The potential sources of contamination (potential contamination sites) located within the DCO limits and within up to 250m were identified within the ES. These sites were then refined by a screening assessment and assigned a “site rating”. The site rating was based partly on the relationship between the identified potential contaminated site and its proximity to the Scheme, together with the vertical alignment of the Scheme design at its closest point. The site rating also considered the nature of the current and/or historical land use, as certain land uses typically result in a greater potential for contamination of the ground to have occurred. The lower the site rating then the lower the risk posed by the source.

Generally, site ratings of two or less were considered to not pose a significant risk to receptors and/or the Scheme and were not considered for further assessment in the ES. As such, these sites are not included as potential contaminated sites (viable sources) within this Stage 1, Tier 2 report.

In total, 44 potential contaminated sites are carried forward for assessment in this report:

- Area 1 – Ten potential contaminated sites;
- Area 2 – Nine potential contaminated sites;
- Area 3 – Four potential contaminated sites; and
- Area 4 - Twenty-one potential contaminated sites

These potential contaminated sites included the Esso pipeline, military land, petrol filling stations, former gas works, railway land, light industrial sites, infilled land, and farms.

The baseline initial CSM risk outcomes indicates that there are very low to moderate/low risks to the receptors associated with these sources. This is dependent on the risk rating score of the source, the sensitivity of the receptor, the potential viable pathways present, the distance from the proposed main road alignment and the types of planned construction works taking place.

### Generic Quantitative Risk Assessment (GQRA)

The findings of the ground investigations and the chemical analysis undertaken together with the CSM have been used as the basis for undertaking a GQRA. The GQRA aims to quantify the potential risks identified in relation to the potential sources and linkages previously summarised in the initial CSM through the screening of sample data. Presentation of this GQRA is consistent with the staged approach described in the Environment Agency's Land Contamination Risk Management guidance report (2020)[4].

Ground investigation chemical data have been obtained for a number of the potential contaminated sites. However, there are also sites where no ground investigation has been possible. Often these are where the potential contaminated site is located outside of the Scheme boundary, or where the baseline risk assessment indicates the sites to be a low or very low risk.

Where no data are available from within the potential contaminated site, and where possible and appropriate, chemical data obtained from adjacent to the potential contaminated site, have been used.

An assessment has been undertaken for each of the four assessment areas. The soil results were screened against generic Evaluation Criteria (EC) that are considered to be protective of human health, based on a public open space (parks) end-use scenario. The soil leachate and groundwater results were screened against Drinking Water Standards (DWS) and Environmental Quality Standards (EQS) to be protective of groundwater and surface water respectively.

### Area 1 Western Limit to Winterbourne Stoke

Although no specific soils samples were obtained from within the potential contaminated sites in this area, of those soil samples which were obtained from Area 1 as a whole, none of these exceeded the EC protective of human health. Therefore, there is unlikely to be an unacceptable risk to human health from the soils sampled within Area 1.

The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 1 indicate that the risk to the River Till is considered to be low and thus acceptable. Soil leachate samples with exceedances (fluoranthene) were identified in locations over 700m from the River Till in the direction of groundwater flow. The metal concentrations detected in soil leachate or groundwater are

generally within the range of the British Geological Society (BGS) background data for the Chalk groundwater.

The risk to groundwater receptors from phosphorus, iron, and nitrate (which exceeded the EC protective of groundwater quality) in either soil leachate and/or groundwater from soils in Area 1 of the Scheme is considered to be low and thus acceptable. These are considered to reflect background conditions across the area, only marginal exceedances or attributed to general agricultural land-use across the Scheme.

### Area 2 Longbarrow Junction

The results of the human health GQRA screening indicate that all soil samples analysed within Area 2 reported concentrations that were less than the adopted EC designed to be protective human health within a public open space (park) end-use scenario except for at TP4_LRI (0.2m) which exceeded EC for cumulative mixture of the carcinogenic polycyclic aromatic hydrocarbons (PAH). However, based on the assessment and the available soil samples obtained, it is concluded that there is unlikely to be an unacceptable risk to human health from the soils sampled within Area 2.

No surface water receptors are identified within the Area 2 boundary. However, the River Avon and River Till, both of which are outside of Area 2, have been assessed as potential receptors, with the River Till being the critical surface water receptor due to it being closest to the potential contaminated sites.

The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 2 indicate that the risk to the River Till is considered to be low and thus acceptable. As the potential distance to the River Till in the inferred direction of groundwater flow is 1.2km or greater, the detected concentrations of PAHs, metals and inorganics which exceeded the EC protective of surface water are not considered to pose an unacceptable risk to surface water in this receptor.

The phosphorus, iron and manganese concentrations detected in soil leachates and groundwater, across Area 2 are generally within the range of BGS background data and are consistent with Chalk groundwater across the Scheme area. The naphthalene and phenanthrene detected in groundwater marginally exceed the adopted EC and the nitrate and nitrite concentrations detected in groundwater are attributed to general agricultural land-use across the Scheme area, rather than from soils at specific potential contaminated sites. Based on this, although there were marginal exceedances of the EC, overall, there is not considered to be an unacceptable risk to groundwater from these determinands.

However, given the elevated phosphorus levels detected in groundwater at CL034, that the current land use (farming) could be a potential source and that limited leachate data have been obtained from this site, the level of risk posed from phosphorus in soil specifically at site CL034 to groundwater is currently uncertain.

### Area 3 Western Tunnel Portal to Eastern Tunnel Portal

The results of the GQRA indicate that all soil samples analysed reported concentrations that were less than the adopted EC designed to be protective of a public open space (park) end-use scenario. Therefore, based on the results of the GQRA, and the available soil samples obtained it is concluded that there is unlikely to be an unacceptable risk to human health from the soils sampled within Area 3.

The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites and elsewhere across the Scheme in Area 3 indicate that the risk to the River Avon is considered to be low and is thus acceptable. The potential distance to the River Avon in the inferred direction of groundwater flow is 2km from the potential contaminated sites (CL035 and CL036). Therefore, the detected concentrations of PAH, metals and inorganics which exceeded the EC protective of surface water within these locations are not considered to pose an unacceptable risk to surface water in this receptor. The concentrations are considered to reflect background groundwater conditions.

Concentrations of phosphorous, manganese and nitrate detected within the groundwater within Area 3, although exceeding the EC protective of groundwater, are generally noted to be within the BGS background range for the Chalk aquifer and are consistent with the Chalk groundwater concentrations across the Scheme area.

### Area 4 Eastern Tunnel Portal to East of Countess Junction

The results of the GQRA indicate that all but four soil samples analysed within Area 4 reported concentrations that were less than the adopted EC designed to be protective of human health within a public open space (park) end-use. Those samples that exceeded the EC were adjacent north and south of the Countess Roundabout in which an exceedance of PAH was detected. The identified exceedances in the four samples were generally marginal. Information reported in the exploratory hole logs suggests that the contamination is localised and caused by the presence of tarmacadam or by a localised fuel spillage.

PAH were detected in soil leachate within the areas to the north and south of Countess Roundabout ((STEPS1, STPES2, STPES5) and south (CP72308) at concentrations that could pose a risk to the River Avon.

Groundwater sampled from CP72308A (down gradient of the north holes and adjacent to CP72308) also contained the same PAH at elevated levels in excess of EC. This well is adjacent to CP72308 and potentially down-hydraulic gradient of CP72308 and CP72308A and are approximately 25m from the river in the inferred direction of groundwater flow. Given the level of exceedance, occurrence in groundwater and proximity of the river, leaching of PAH from soils in this area could pose an unacceptable existing risk to the River Avon. The concentrations of PAH with the addition of total petroleum hydrocarbons (TPH) could also pose an unacceptable risk to groundwater.

Metals detected at levels above EC in the samples tested across the majority of Area 4 are considered to reflect background conditions across the Scheme and do not indicate an unacceptable risk to the River Avon. The exception to this are soils at site CL041 where levels of copper exceed the EC. The risk posed by copper in the soils at CL041 to the river is uncertain due to variability in concentrations in the groundwater between surrounding monitoring wells and monitoring well WS02, down gradient of CL041.

The metals detected at levels above EC in Area 4 do not indicate an unacceptable risk to groundwater from the locations sampled.

### Summary of assessment and further works

The summary below describes, where applicable, any unacceptable residual risks from the potential contaminated sites and recommends further assessment and/or appropriate mitigation (remediation) which may be required, in line with the Outline Environmental Management Plan (OEMP) requirements. These mitigation measures will be included in the relevant Construction Environmental Management Plans (CEMPs) and developed as necessary in consultation with the Environment Agency and Wiltshire Council.

| Reference number | Site description | Assessment Area | Recommendations |
|---|---|---|---|
| CL018 | Former RAF Oatlands Hill (1941 - 1946) | 2 | Whilst no additional ground investigation is recommended, given the intrusive main works proposed, measures should be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. This includes a watching brief by a suitability qualified professional. Site-specific re-use assessment criteria should be calculated that take account of the potential migratory distance to the River Till. |
| CL034 | Pig Farm (Longbarrow Roundabout) | 2 | The collection of additional soil leachate samples may be required to refine understanding of the potential risk to groundwater. Further assessment of this risk may be necessary either in advance of the works or through development of criteria and a procedure for testing of soils excavated in this area during the works, prior to re-use. The proposed construction works include a cutting which may result in source removal if a source is identified. Site-specific re-use assessment criteria should also be calculated that take account of the potential migratory distance to the River Till.<br>A watching brief by a suitability qualified professional is also recommended. |
| CL036 | Former Stonehenge Pedigree Stock Farm (1924 - 1926) | 3 | Although overall the risk to groundwater is considered low and acceptable, there is no soil leachate data. Given the historical farm activities associated with CL036, it is recommended that testing of soils is undertaken from the area before re-use, and assessment of suitability for |

| Reference number | Site description | Assessment Area | Recommendations |
|---|---|---|---|
| | | | re-use is based on comparison with site-specific assessment criteria. |
| CL041 | Former Quarry (1899 - 1961) | 4 | Whilst no additional ground investigation is recommended, given the uncertainty and the intrusive main works proposed across CL041, measures should be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific re-use assessment criteria should be calculated that take account of the potential migratory distance to the River Avon. |
| N/A | Area North and South of Countess Roundabout | 4 | The risk to the River Avon and groundwater from leaching of PAHs from soils north and south of Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated, taking account of the potential migratory distance to the river, to assess samples collected during further delineation or re-use testing. |

In addition to the above, it is understood that Esso will be conducting their own ground investigation for CL080 High Pressure Esso Oil Pipeline within Area 1. It is recommended that the results and findings of the investigation are obtained in order to assess the ground conditions to include any health and safety and or remedial requirements prior to excavation works for the removal of the pipeline.

The construction of the northern electricity substation (within Area 4) is also yet to be confirmed. Should this be required it is recommended that ground investigation within the area of the proposed substation is undertaken to assess if there is a risk posed from CL056, CL061, CL081, CL082 and CL0113 to the proposed development.

No further assessment or ground investigation is considered to be required for the remaining potential contaminated sites.

This following potential contaminated sites require no further assessment or ground investigation generally because no construction activities will occur on these sites, or within 50m of them. Most are also located outside of the Scheme boundary:

- CL010 Winterbourne Stoke Chalk Pit (1879 - 1926) - Area 1;
- CL012 Manor Farm - Area 1;
- CL037 Former Sewage Outfall (disused 1924, removed 1970) - Area 3;
- CL039 Disused Tip (1974) - Area 3;

- CL045 Former Gas Works (1879 - 1901) and Ground Works (1961) - Area 4;
- CL052 Former Gravel Pit (1926 - 1961) - Area 4;
- CL059 Industrial Repairs and Servicing (Reconditioning Gears - Area 4;
- CL066 Depot and Warehousing (Minton Distribution Park) - Area 4;
- CL071 Coop Filling Station - Area 4;
- CL091 New Barn' - current unknown industrial activity from aerial photograph Area 4; and
- CL102 Motor Works - Area 4.

During planned intrusive construction activities taking place on the following sites, a watching brief by a suitability qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered at these sites:

- CL001 Pig Farm (Berwick Down) - Area 1;
- CL005 Pumping House - Area 1;
- CL014 Unspecified Pit (1878 - 1926). Adjacent/ within Area of Fill (Demolition Rubble) (CL015) - Area 1;
- CL015 Area of Fill (Demolition Rubble) - Area 1;
- CL016 Historic Barn and Above Ground Tank (1877 - 1961) - Area 2;
- CL020 Infilled and unspecified Pits and Ground Workings (1879 - 1957) - Area 2;
- CL023 Former RAF Lake Down (1917 - 1924) - Area 2;
- CL025 Former Larkhill Military Light Railway (Dismantled) - Area 2;
- CL035 Former RAF Stonehenge (1917 - 1921) - Area 3;
- CL050 Pumping Station - Area 4;
- CL051 Countess Filling Station - Area 4;
- CL055 Railway Land (historic engine sheds, buildings, tanks, and sidings (1926) - Area 4;
- CL057 Former SR Bulford Extension Railway (1924 - 1937) - Area 4; and
- CL058 Cuttings potentially associated with SR Bulford Extension Railway – potentially infilled - Area 4.

The following sites are located within 50m of proposed works, and a watching brief by a suitability qualified geo-environmental professional is recommended during the planned construction activity that will occur within 50m of these sites. This will enable an assessment to be undertaken should any unforeseen contamination be encountered, that may be attributable to these sites within the adjacent construction areas:

- CL003 Cherry Lodge Farm (formerly Homanton Farm) - Area 1;
- CL006 Possible Infilled Ground - former Covered Reservoir - Area 1;
- CL098 Unknown Filled Ground (pit, quarry, etc) - Area 1;
- CL021 Pump House (and associated former Covered Reservoir - potentially infilled) - Area 2;
- CL028 Rollestone Camp - Area 2;
- CL033 Larkhill (Former Aerodrome and Current Royal School of Artillery) – Artillery Range - Area 2;
- CL063 Former Chalk Pit (1878 - 1961) - Area 4;

- CL064 Precision Engineer (Engineering Services) - Area 4; and
- CL105 Former Railway Buildings and Sidings near Countess Road - Area 4.

# 1 Introduction

## 1.1 General

1.1.1 This report provides a Stage 1, Tier 2 land contamination risk assessment using all available and applicable soil and groundwater geochemical sample data recovered from across eleven phases of ground investigation completed between 2001 and 2021 along the A303 Amesbury and Berwick Down Scheme. It also includes relevant groundwater data obtained from the long-term monitoring programme well locations between January 2018 and January 2021 [1].

1.1.2 This report makes frequent reference to the land contamination assessment presented as part of the Environmental Statement (ES) [2] that was submitted as part of the Development Consent Order (DCO) application. It is recommended that this report is read in conjunction with Chapter 10 of the ES. A full description of the A303 Amesbury to Berwick Down scheme is provided in Chapter 2 of the ES.

## 1.2 Objectives and scope of assessment

1.2.1 The assessment presented in this report seeks to quantify soil and groundwater geochemical sample data recovered from across the Scheme with specific reference to the key potential contaminated sites that were identified and described in Chapter 10 of the ES [2].

1.2.2 The Development Consent Order (DCO) includes a requirement stipulating that the measures contained in the Outline Environmental Management Plan (OEMP) (Appendix 2.2 of the ES [2]) are implemented. PW-GEO4 and MW-GEO8 of the OEMP require that a risk assessment is undertaken where works are proposed on, or within 50m of, a known or potential contaminated site. The specific wording of this commitment is:

*"proposed work areas located within 50m of potential or known areas of land contamination, as identified in the Environmental Statement, shall be investigated using a risk based approach in accordance with Contaminated Land Report 11, Model Procedures for the Management of Land Contamination (2004)* [now replaced by the Environment Agency's Land Contamination Risk Management (2020)] *both in the pre-construction and construction phases, including the production of a risk assessment produced in consultation with Wiltshire Council and the Environment Agency which must be provided to those parties as soon as reasonably possible after its completion. Where unacceptable risks are identified, further assessment and/or appropriate mitigation (remediation) to reduce to acceptable levels the potential short and long-term health and safety and environmental risks to sensitive receptors will be identified in consultation with the Environment Agency and Wiltshire Council and implemented. Associated additional ground investigations will be undertaken in accordance with UK good practice, including BS 5930:2015 Code of Practice for ground investigations and BS 10175:2011 + A2:2017 Investigation of Potentially Contaminated Sites Code of Practice."*

1.2.3 In accordance with above commitment, the methodological approach set out in this report has been developed in consultation with the Environment Agency and Wiltshire Council and this report will be provided to them as soon as practicable. The mitigation measures identified by this report will be included in the relevant Construction Environmental Management Plans

(CEMPs) and developed as necessary in consultation with the Environment Agency and Wiltshire Council.

1.2.4 Chapter 10 of the ES, and its technical appendices, presents a Stage 1, Tier 1 level of assessment in accordance with the now superseded CLR11 [3] which was the guidance referred to in the ES. This is equivalent to the Stage 1, Tier 1 land contamination risk assessment defined by the Environment Agency's Land Contamination Risk Management (LCRM) guidance report [4], which replaced CLR11 after the DCO submission was made. The LCRM guidance is now also referred to in the Construction Environmental Management Plan (CEMP) commitments that have been developed.

1.2.5 The assessment completed within the ES identified potential contaminated sites within the DCO limits, and up to 250m from these limits. Those sites in, or within 50m of the DCO limits are discussed further in Section 4.3, along with figures showing their locations. Within the ES, the potential contaminated sites were provided with a unique reference and screened based on potential for land contamination to have occurred from current and historical land use, their proximity to the Scheme and the nature of the proposed construction planned at the closest point to the potential contaminated site.

1.2.6 The potential contaminated sites screened into the ES's detailed assessment were then considered further in relation to potential sensitive receptors and through the development of Conceptual Site Models (CSM) for the baseline condition, during construction and post construction. A preliminary risk assessment was carried out using the principles established in National House Building Council (NHBC), Environment Agency and Chartered Institute of Environmental Health report titled 'Guidance for the Safe Development of Housing on Land Affected by Contamination', R&D66 [5]. The baseline condition CSM for the potential contaminated sites, as detailed in the ES Chapter 10 Appendix 10.2, are presented in Appendix B.

1.2.7 The ES also referred to a preliminary Ground Investigation Report (GIR) [6] that was prepared to support the DCO. The GIR included for an assessment of available geochemical data at the time. It also assessed potential risks from the placement of tunnel arisings at Parsonage Down, and in particular re-use of Phosphatic Chalk and potential phosphorus leachate being generated from the excavated materials, and also radon gas potential. Further studies to support the GIR findings were undertaken in conjunction with Public Health England on radon. This current land contamination assessment report does not revisit the re-use of tunnel arisings, and any aspect of the leachate or radon studies as these concerns were satisfactorily addressed during the DCO examination.

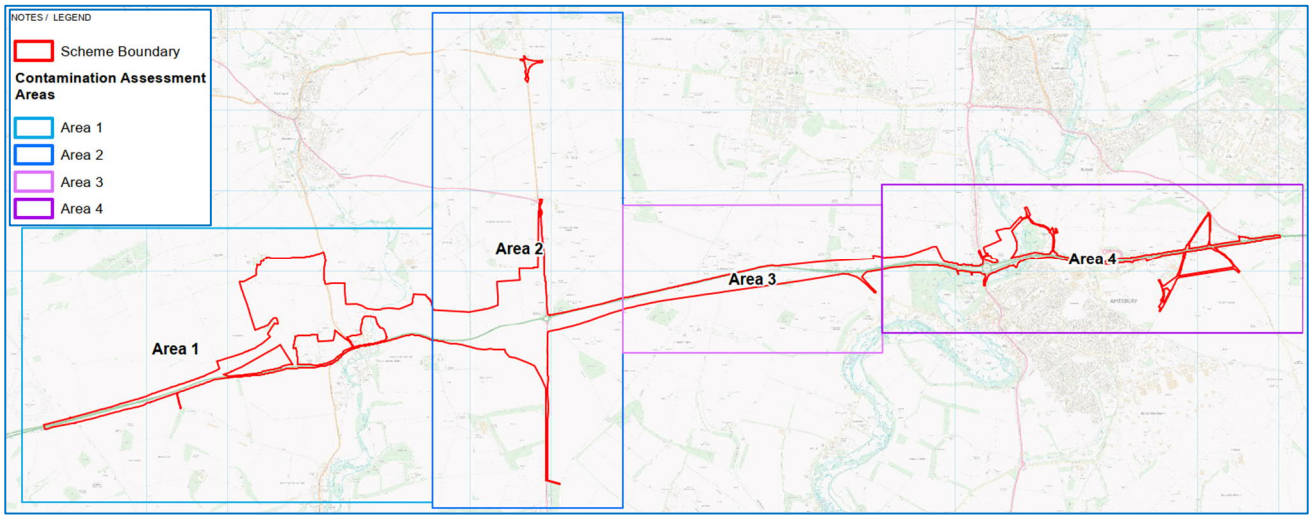
1.2.8 The assessment in this current land contamination assessment report, considers all relevant geochemical data and provides an assessment of it in relation to the applicable potential contaminated site to which the data relates to.

1.2.9 For the purposes of this assessment, the Scheme has been divided into four assessment areas. These are:

- Area 1 – Western Limit to Winterbourne Stoke (Chainage 0 to 4800);
- Area 2 – Longbarrow Junction (Chainage 4800 to 7200);
- Area 3 – Western Tunnel Portal to Eastern Tunnel Portal to (Chainage 7200 to 10500); and
- Area 4 – Eastern Tunnel Portal to East of Countess Junction (Chainage 10500 to 12572).

1.2.10 Each of the four assessment areas is illustrated on Figure 1-1, below and is described in more detail in Section 2. See Figure 1 in Appendix A for a full plan of each of the assessment areas.

**Figure 1-1 Four assessment areas across the Scheme**




**Insert of Figure 1 in Appendix A – Figures*

## 1.3 Study area

1.3.1 The study area for the land contamination assessment remains consistent with that defined in Chapter 10 of the ES. It comprises the Scheme boundary within all four assessment areas, which includes the proposed East Parsonage Down habitat creation area (Area 1), Rollestone Junction (Area 2) and the new link between Allington Track and Amesbury Road (Area 4), and an additional buffer of 250m. This study area was agreed with the Environment Agency and Wiltshire Council in May 2018.

1.3.2 An extended buffer of 1km has been considered for groundwater, surface water and potable water abstractions as potential receptors to any land contamination. This is a typical buffer for hydrogeological and hydrological receptors, cited in references and guidance such as RD66, 2008 [5].

## 1.4 Sources of information

1.4.1 The ES and other relevant sources of information referenced throughout this report are listed below;

- Highways England, A303 Amesbury to Berwick Down - Stage 4 Groundwater Monitoring 2018 - 2020 Conceptual Model Review HE551506-AMW-EWE-SW_GN_000_ZZ-RP-WR-0104 [1];

- Highways England, A303 Amesbury to Berwick Down TR010025, Environmental Statement, October 2018 [2];
- AmW, “A303 Amesbury to Berwick Down, Preliminary Ground Investigation Report (GIR), Document Ref HE551506-AMW-HGT-SW_GN_000_Z-RP-CE-0005,” June 2018. Hereafter referred to as ‘GIR’ [6];
- Groundsure Enviro Geo Insight Report, December 2016 [7];
- AmW, Enterprise GIS Portal for the A303 Stonehenge Expressway with 10K mapping and colour rasters mapping sourced from Ordnance Survey; and
- Balfour Beatty-Costain Halcrow Gifford/Highways England, A303 Stonehenge Improvements Environmental Statement, 2003 [8].

1.4.2 The ground investigation reports for the eleven phases are listed below;

- Soil Mechanics, “A303 Stonehenge - Preliminary Ground Investigation. Factual Report on Ground Investigation. HAGDMS No. 17439,” 2001. Hereafter referred to as ‘Preliminary GI – 2000’ [9];
- Soil Mechanics, “A303 Stonehenge Ground Investigation Factual Report on Phase I Main Ground Investigation Volume 1 to 5. HAGDMS no. 16175,” 2001. Hereafter referred to as ‘Main GI - 2001 Phase 1’ [10];
- Soil Mechanics, “A303 Countess Roundabout. Factual Report on Ground Investigation. HAGDMS No. 24822,” 2009 and Mott MacDonald, “A303 Countess Roundabout - Safety Scheme, HAGDMS no.24822,” 2011. Hereafter referred to as ‘Countess Roundabout Improvement 2009’ [11] and [12], respectively;
- Mott MacDonald, “A303 Longbarrow Roundabout Improvement Scheme, HAGDMS no. 24930,” 2010. Hereafter referred to as ‘Longbarrow Roundabout Improvement’ [13];
- Structural Soils, “A303 Amesbury to Berwick Down – Factual Report on Ground Investigation. HAGDMS no. 29779,” 2017. Hereafter referred to as ‘Early Phase GI’ [14];
- Structural Soils Ltd, “A303 Stonehenge - Phase 6 & 7 Ground Investigation, Final Factual Report on Ground Investigation,” April 2019. Hereafter referred to as ‘Phase 6 and Phase 7’ [15];
- Geotechnics, “A303 Amesbury to Berwick Down – Phase 7a Countess, Factual Report,” January 2020. Hereafter referred to as ‘Phase 7A Countess’ [16];
- Geotechnics, “A303 Amesbury to Berwick Down – Phase 7a(i), Factual Report,” September 2019. Hereafter referred to as ‘Phase 7Ai’ [17];
- Geotechnics, “A303 Amesbury to Berwick Down – Phase 7a(ii), Factual Report,” November 2019 (Draft). Hereafter referred to as ‘Phase 7Aii’ [18]; and
- RPS, “Factual Report, A303 Amesbury to Berwick Down Phase 7B GI,” April 2021. Hereafter referred to as ‘Phase 7B – 2020’ [19].

1.4.3 Key guidance documents referred to throughout the report are listed below;

- Environment Agency, Contaminated Land Report (CLR11) Model Procedures for the Management of Land Contamination, 2004. (Now withdrawn) [3];
- Environment Agency, LCRM - https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm, 2021 [4];
- NHBC, Environment Agency and Chartered Institute of Environmental Health, Guidance for the Safe Development of Housing on Land Affected by Contamination, R&D Publication 66, 2008 [5];
- EU, The Water Framework Directive (2000/60/EC) [20];
- Multi-Agency Geographic Information for the Countryside (MAGIC) [21];
- British Geological Survey (BGS), Baseline groundwater chemistry: the Chalk aquifer of Hampshire, 2009 [22];
- CIRIA C741 4th Edition ‘Environmental Good Practice On Site’, 2015 [23];
- Environment Agency, CLEA Software (Version 1.05) Handbook, 2009 [24]; and
- Environment Agency, Remedial Target Methodology, 2006 [25].

# 2 Assessment Area Description

## 2.1 General

2.1.1 This section presents a description of each of the four assessment areas including the key design elements of the Scheme within each assessment area.

## 2.2 Area 1 Western Limits to Winterbourne Stoke

2.2.1 The Scheme would commence on the existing A303 approximately at Yarnbury Castle and would closely follow the existing A303 alignment, south of Parsonage Down National Nature Reserve (NNR). It would then continue in a north easterly direction providing a bypass to the north of the village of Winterbourne Stoke.

2.2.2 A 'green bridge' would be constructed over the new A303 northwest of Scotland Lodge Farm near the southeast corner of Parsonage Down. This bridge would provide ecological and landscape connectivity across the Scheme and would form part of a non-motorised user (NMU) route and agricultural access route which would run from a layby on the existing A303 to Parsonage Down. An area east of Parsonage Down would be used to create chalk grassland habitat using excavated chalk material arising from construction.

2.2.3 Local access from Winterbourne Stoke, northwards towards Shrewton, would be provided by the B3083. This access would be maintained by the provision of a single span bridge to carry the new A303 over the B3083. The proposed new bridge would be located to the west of the existing B3083 but would enable the B3083 to be kept open to traffic throughout the construction period other than for discrete periods to allow short duration specific activities to be undertaken (e.g. construction of tie-ins etc.). The clear span of the bridge would accommodate the re-aligned B3083 and a segregated verge on the east side to allow cattle movements and equestrian use across the new alignment.

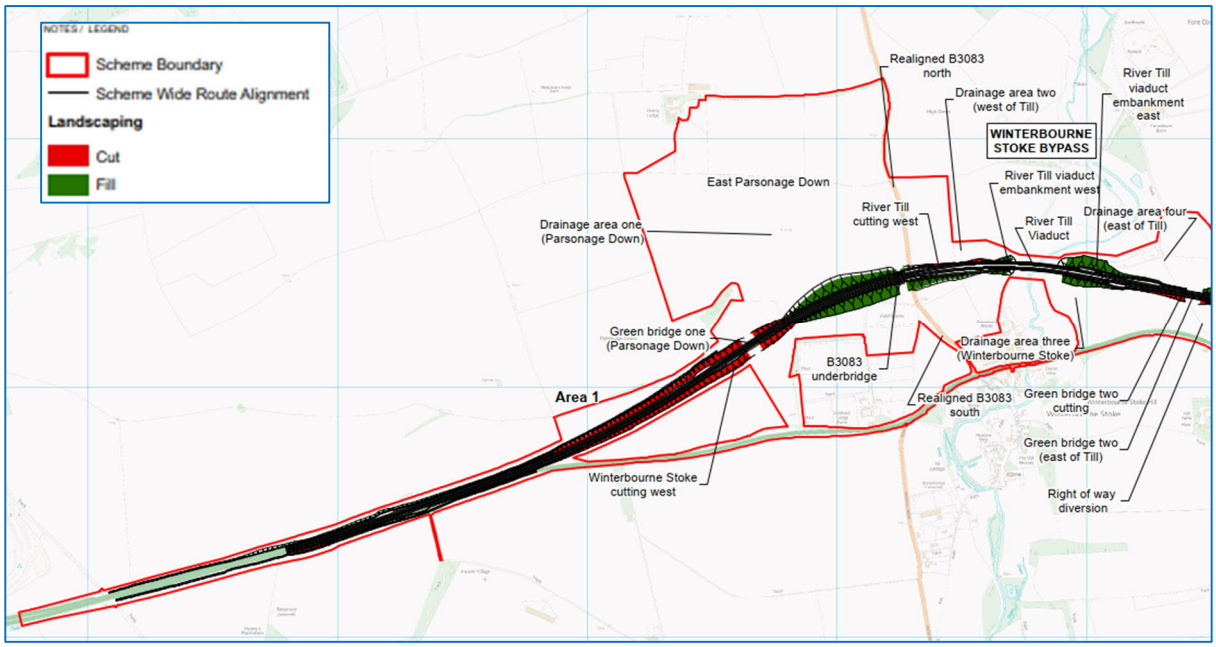
2.2.4 The Scheme would continue in an easterly direction, crossing the River Till valley on a new twin deck viaduct. The River Till viaduct would carry the proposed A303 over the River Till Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) and its floodplain. The viaduct would be designed to minimise impacts on the river below while balancing other environmental considerations, such as landscape and visual impacts. It would be a twin deck structure, with each deck approximately 14m wide and 210m in length, and with a gap of approximately 7m between them. The road level on the bridge would be approximately 10m above the River Till where it crosses the river channel. The location of the piers would not be within the SAC or SSSI and to allow the existing bridleway (WST04) from Winterbourne Stoke to remain at its current location. An environmental barrier, 1.5m in height, would be installed on the southern parapet to help screen vehicle movements from locations to the south.

2.2.5 A second green bridge at the Winterbourne Stoke Public Right of Way (PRoW) WST06B would maintain the existing PRoW over the new A303

alignment and as with other green bridges would provide for ecological and landscape connectivity across the Scheme.

2.2.6 Figure 2-1 shows the key design elements of the Scheme in Area 1. See Figure 2A in Appendix A for a full plan of Area 1.

**Figure 2-1 Area 1 Western Limits to Winterbourne Stoke: key design elements of the Scheme**




**Extract from Figure 2A which is presented in Appendix A – Figures*

## 2.3 Area 2 Longbarrow Junction

2.3.1 Continuing to the east, the Scheme would cross the line of the existing A303 approximately 700m west of the existing A360 Longbarrow Roundabout. A new grade separated junction with the A360 is proposed to the west of the World Heritage Site (WHS) boundary. This junction, known as the Longbarrow Junction, would accommodate free-flowing traffic movements between the A360 and the A303. The junction would consist of two roundabouts connected by a short length of dual carriageway, carried over the A303 on a new green bridge with earth bunds on each side, to help mitigate visual impact and to provide ecological connectivity. The roundabouts and approach roads would be set below existing ground level.

2.3.2 Traffic lights would be required at the Longbarrow Junction. The traffic lights could be used during both day and night. A link to the de-trunked A303 to the west, accessing Winterbourne Stoke, would also be provided from the new Longbarrow Junction.

2.3.3 As the Scheme crosses the line of the existing A360, it would enter into the WHS where it then follows closely the line of the existing A303.

2.3.4 The proposed alignment over the first 1.0km of this section would generally be in a cutting varying in depth between approximately 7m and 10m. The top approximately 2.5m of the cutting would have approximately 1 in 2

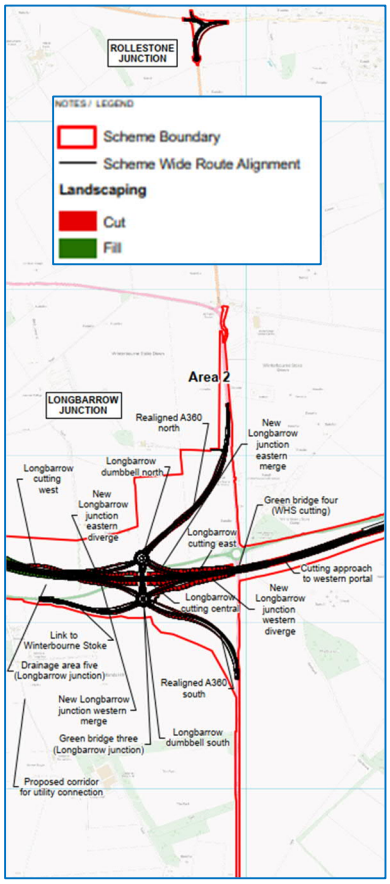
grassed slopes. The bottom of the cutting would comprise vertical retaining walls.

2.3.5 Shortly after entering the WHS there would be a further green bridge (also known as a 'land bridge') and would be approximately 150m in length and would start approximately 150m from the western boundary of the WHS. In addition to an NMU route and private means of access, this bridge would also provide visual and landscape connectivity between barrow groups to the north and south of the Scheme. The existing A303 through the WHS would be converted to a restricted byway.

2.3.6 Rollestone Junction is located within Area 2, approximately 2km to the north of Longbarrow Junction.

2.3.7 Figure 2-2 shows the key design elements of the Scheme in Area 2. See Figure 2B in Appendix A for a full plan of Area 2.

**Figure 2-2 Area 2 Longbarrow Junction: key design elements of the Scheme**




**Extract from Figure 2B which is presented in Appendix A – Figures*

## 2.4 Area 3 Western Tunnel Portal to Eastern Tunnel Portal

2.4.1 The western tunnel portal would be located within the WHS, north west of Normanton Gorse, approximately 1.0km east of the existing Longbarrow Roundabout and immediately to the south of the existing A303. The tunnel would commence with a fully grassed-over cut and cover tunnel before it becomes a bored tunnel. Tunnel service buildings would be located outside the tunnel portal.

2.4.2 The Scheme would then continue in tunnel in an easterly direction following an alignment that is broadly similar to the existing A303 but at a depth of up to 50m.

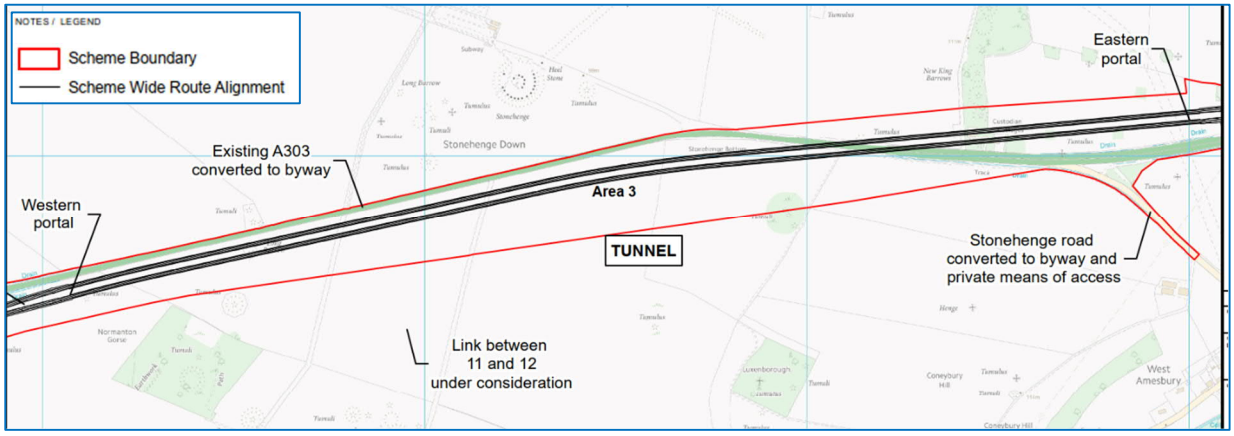
2.4.3 The proposed tunnel would be a twin-bore structure, approximately 2 miles (approximately 3.3km) in length, and each bored section of the tunnel would have an internal diameter of approximately 11.5m.

2.4.4 The two bores would be connected underground by a series of cross passages at regular intervals to allow for the safe evacuation of road users in the event of an incident in one of the bores.

2.4.5 The tunnel would contain a number of mechanical and electrical, operational and safety systems. The items of plant required to power and control these systems would predominantly be housed at the tunnel service buildings located outside of the tunnel.

2.4.6 Figure 2-3 shows the key design elements of the Scheme in Area 3. See Figure 2C in Appendix A for a full plan of Area 3.

**Figure 2-3 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: key design elements of the Scheme**




**Extract from Figure 2C which is presented in Appendix A – Figures*

## 2.5 Area 4 Eastern Tunnel Portal to East of Countess Junction

2.5.1 The tunnel would emerge at the eastern tunnel portal through a short section of cut and cover tunnel extending eastwards from the bored tunnel section. The eastern tunnel portal would be located to the east of the King Barrow Ridge and The Avenue and just to the north of the existing A303. The portal approach would be in deep cutting formed mostly of grassed slopes beyond the extents of the tunnel buildings.

2.5.2 The Scheme would then closely follow the line of the existing A303 to Countess Roundabout.

2.5.3 A new flyover above the existing roundabout would separate traffic going east-west along the A303 from traffic going north-south along the A345 Countess Road, with slip roads accommodating traffic movements between the two roads. The new flyover would include two single span bridges that would accommodate the existing roundabout traffic lanes.

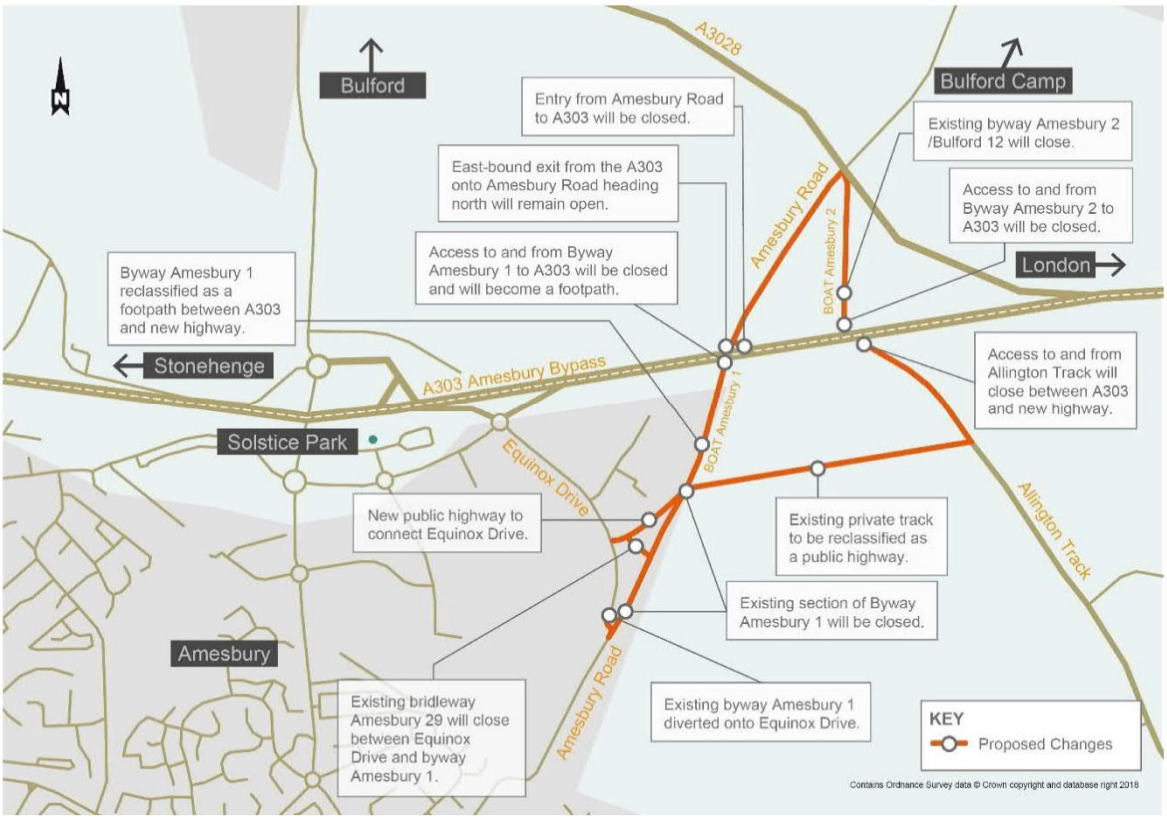
2.5.4 Retaining walls would be required at this junction to support the A303 between the slip-roads. 1.8m high noise barriers would be installed along both sides of the flyover to help screen vehicles and to help attenuate vehicle noise.

2.5.5 There are two existing subways between the proposed eastern tunnel portal and Countess Junction, which would be removed. New pedestrian crossings would be created around the existing Countess Roundabout to provide north/south connectivity along Countess Road under the A303.

2.5.6 The Scheme would tie in with the existing A303 close to the existing River Avon Bridge, to the west of Solstice Park junction.

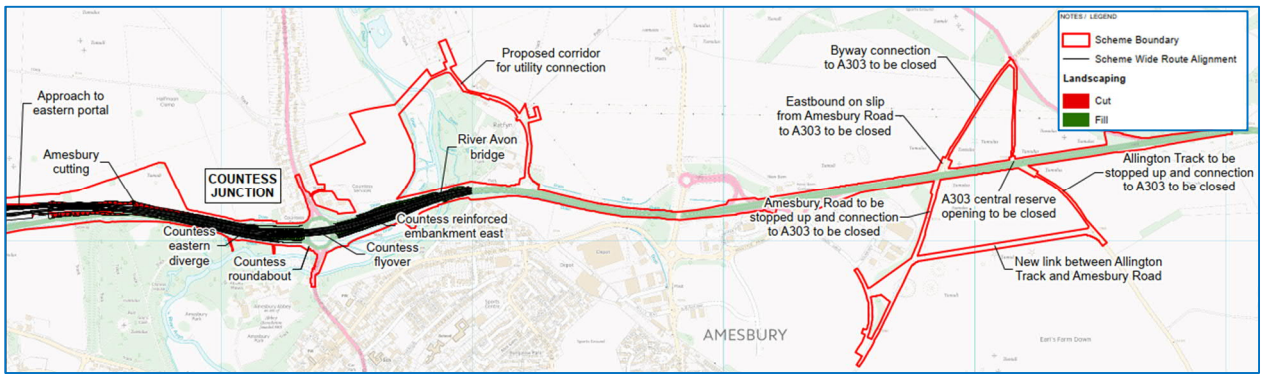
2.5.7 To the east of the Solstice Park Junction there would be a number of changes to existing rights of way. These changes at the eastern end of the Scheme are summarised in Figure 2-4 below.

**Figure 2-4 Changes to rights of way at eastern end of Scheme (reproduced from Figure 2.4 of the ES)**




2.5.8 Figure 2-5 shows the key design elements of the Scheme in Area 4. See Figure 2D in Appendix A for a full plan of Area 4.

## Figure 2-5 Area 4 Eastern Tunnel Portal to East of Countess Junction: key design elements of the Scheme




**Extract from Figure 2D which is presented in Appendix A – Figures*

# 3 Background Information

## 3.1 Introduction

3.1.1 This section summarises and reviews the relevant geo-environmental information available for each of the four assessment areas of the Scheme.

3.1.2 Unless otherwise specified, the information has been established by making reference to the sources identified in Section 1.4.

## 3.2 Published geology

3.2.1 The superficial and bedrock geology across the Scheme has been established by making reference to the ES [2] Chapter 10.

3.2.2 Made Ground is not mapped within the study area. However, it is anticipated to be present in areas of previous and existing development and along existing highways. There is also the possibility for Made Ground associated with infilled ground in discrete places. Based on information contained in the Groundsure Geo Insight Report [7], it is known that there are chalk pits, gravel pits, ground workings, cuttings, covered reservoirs, and infilled ponds within the study area.

3.2.3 Localised superficial deposits are present underlying the Scheme. River Terrace Deposits, Alluvium and Peat associated with the River Avon are present in the eastern part of the Scheme (Area 4). Alluvium surrounds the channel of the River Till towards the west of the Scheme (Area 1). Head Deposits are present within the study area, typically following the dry valley bottoms which are associated with former and seasonal surface water bodies and/or groundwater discharges.

3.2.4 The bedrock underlying the study area comprises a succession of the Upper Cretaceous Chalk group, including the Newhaven and Seaford Chalk Formations. The majority of Chalk strata exposed in the study area belongs to the Seaford Formation. An area in the vicinity of Stonehenge Down (Area 3) is underlain by the Newhaven Chalk Formation (which is known to contain distinct Phosphatic Chalk of limited lateral extent). A fault line forms the eastern boundary of the Newhaven Chalk Formation (Area 3) and trends in a north-south direction, located approximately 500m to the east of the Stonehenge Monument (hereafter referred to as ‘the Stones’). The fault crosses the existing A303 immediately east of the junction of the A303 and the former A344 which was closed in June 2013.

## 3.3 Hydrogeology

3.3.1 Table 3-1 presents the known hydrogeological information for the Scheme and study area.

## Table 3-1 Hydrogeological information

| Data type | Detailed description | Assessment area |
|---|---|---|
| Underlying geology aquifer classes | **Localised superficial geology:** | |
| | Head Deposits – Secondary (undifferentiated) aquifer[1] where they comprise clay, silt, sand and gravel and a Secondary A aquifer where they consist of gravel | 1, 2, 3 and 4 |
| | Alluvium – Secondary A aquifer[2] | 1 and 4 |
| | River Terrace Deposits – Secondary A aquifer | 4 |
| | Peat – Unproductive strata[3] | 4 |
| | **Bedrock geology:** | |
| | Seaford Chalk Formation – Principal aquifer[4] | 1, 2, 3 and 4 |
| | Newhaven Chalk Formation – Principal aquifer | 3 |
| Groundwater vulnerability | The simplified groundwater vulnerability map published by the Environment Agency on Magic Maps [21] indicates an aquifer of high vulnerability across most of the Scheme. A soluble rock risk is also shown, indicating the potential presence of solution features that may allow a pollutant to migrate more rapidly down to the aquifer. Where localised superficial deposits are present, an aquifer of medium-high vulnerability is identified. | 1, 2, 3 and 4 |
| Groundwater quality | The following summary of groundwater quality has been taken from the ES [2] (Chapter 11 and Appendix 11.4 Groundwater Risk Assessment of the ES);<br><br>The Chalk groundwater quality (informed by data from water quality samples taken in the study area historically, in 2018 and from nearby Environment Agency boreholes [8] [14] [26] is of a calcium bicarbonate type, with chemistry generally consistent with the BGS baseline data [22]. Only nitrate and turbidity concentrations exceeded the Drinking Water Standards (DWS) in groundwater samples collected in 2018. There is little variation in the groundwater quality across the study area.<br><br>In the ES (Chapter 11 and Appendix 11.4 Groundwater Risk Assessment), natural sources are postulated for elevated sulphate, dissolved phosphate and arsenic concentrations compared to the BGS baseline [22], with elevated nitrate and ammoniacal nitrogen likely to be related to the general agricultural land use in the study area. Elevated concentrations of chloride and sodium encountered in historical data could be attributed to road salt. | 1, 2, 3 and 4 |
| Groundwater Source Protection Zones | There are four licensed public drinking water supply sources located beyond the Scheme boundary but within 1 km of the Scheme. The groundwater Source Protection Zones (SPZ) for these public drinking water supply abstractions are applicable to the study area. These are described below: | |
| | a) one located at Shrewton, north of Winterbourne Stoke (SPZ1, SPZ2, SPZ3 approximately 600m to 830m from the Scheme boundary) | 1 |

<table>
<tr><th>Data type</th><th>Detailed description</th><th>Assessment area</th></tr>
<tr><td></td><td>b) one located north of Amesbury at Durrington (SPZ1, SPZ2 with the SPZ1 located within the study area);</td><td rowspan="3">4</td></tr>
<tr><td></td><td>c) one located north of Amesbury at Bulford (SPZ1 and SPZ2, located approximately 400m north of the Scheme boundary);</td></tr>
<tr><td></td><td>d) SPZ3 located within the eastern extent of the study area east of Amesbury, for a source at Little Durnford, approximately 4.2 miles (6.7km) south of the Scheme boundary.</td></tr>
<tr><td></td><td>The study area does not lie within a groundwater Drinking Water Safeguard Zone [21].</td><td></td></tr>
<tr><td>Groundwater abstractions</td><td colspan="3">Environment Agency and Wiltshire Council information indicates that there are seven active licensed groundwater abstractions within 1km of the Scheme[5], which are all understood to be sourcing groundwater from the Chalk. Three of these abstractions are for general farming or commercial use and three relate to potable, private water supply abstractions. A summary is provided below:
<table>
<tr><th>Abstraction Borehole Name</th><th>Type of Use</th><th>Licence Number /Council Ref No</th><th>Location (approx.)</th></tr>
<tr><td>WISMA Farm Borehole Point A</td><td>General agriculture</td><td>13/43/023/ G/246</td><td>650m south of the western area of the Scheme boundary, off Berwick Road south of Winterbourne Stoke</td></tr>
<tr><td>WISMA Berwick St. James</td><td>Domestic</td><td>13/43/023/ G/246</td><td>350m south of the western area of the Scheme boundary, off Berwick Road south of Winterbourne Stoke</td></tr>
<tr><td>Scotland Lodge, Winterbourne Stoke, Salisbury</td><td>Domestic</td><td>PW/000000 932</td><td>In the vicinity of Scotland Lodge, off A303, east of Winterbourne Stoke.</td></tr>
<tr><td rowspan="2">Oatlands Hill, Winterbourne Stoke Well Point B</td><td rowspan="2">General agriculture</td><td>13/43/023/ G/065</td><td rowspan="2">In the vicinity of Oatlands Hill, west of the A360 and 520m south of the Scheme boundary</td></tr>
<tr><td>13/43/023/ G/245 (licensed Borehole)</td></tr>
<tr><td>Borehole ‘B’ at Airman’s Corner</td><td>Private water supply: drinking, cooking, sanitary, washing, (small garden) - commercial/</td><td>SW/043/00 21/003</td><td>10m north of the Scheme Boundary (adjacent to Stonehenge Visitor Centre)</td></tr>
</table></td><td></td></tr>
</table>

| Data type | Detailed description | | | | Assessment area |
|---|---|---|---|---|---|
| | | industrial/ public services | | | |
| | Borehole 'A' at Airman's Corner | Energy – heating pump | SW/043/0021/003 | 200m east of the Scheme boundary (adjacent to Stonehenge Visitor Centre) | 2 |
| | Druids Lodge Borehole 1 | General agriculture | 13/43/021/G/251 | 270m south of the southern area of the Scheme boundary, adjacent to the A360, and south of Longbarrow Roundabout | 2 |

*[1] Secondary (undifferentiated) aquifers are aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These have only a minor value.*

*[2] Secondary A aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.*

*[3] Unproductive strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.*

*[4] Principal aquifers are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.*

*[5] Abstractions licensed at the time of the ES. Appendix 11.4 of the ES also noted that an additional, expired licence was identified at Manor Farm in Winterbourne Stoke, which covered four boreholes for agricultural (general and domestic) purposes, located within 1km of the Scheme. This had been reapplied for in February 2018 and reported to have been subsequently re-licensed.*

## 3.4 Hydrology

3.4.1 Table 3-2 presents the known hydrological information for the Scheme and study area.

**Table 3-2 Hydrological information**

| Data type | Detailed description | Area |
|---|---|---|
| Surface water receptors | Surface waters present within the study area include: | |
| | River Till flowing southwards through Winterbourne Stoke at the western extent of the study area | 1 |
| | River Avon at the eastern extent of the study area flowing southwards | 4 |
| | Spring system at West Amesbury | |
| | Amesbury Springs within the grounds of Amesbury Abbey | |
| Surface water quality | The following summary of surface water quality has been taken from the ES [2] (Chapter 11 and Appendix 11.4 Groundwater Risk Assessment). | 1 and 4 |

| Data type | Detailed description | Area |
|---|---|---|
| | The study area lies within the Hampshire Avon (Upper) upstream of the Nine Mile River confluence Water Framework Directive (WFD) waterbody catchment (GB108043022351). It has an overall status of 'Poor' (status of phosphate being 'Moderate'), with an objective to reach 'Good' status by 2027.<br><br>The study area also lies within the Hampshire Avon (Upper) downstream of the Nine Mile River confluence WFD waterbody catchment (GB108043022352). It has an overall status of 'Moderate' (status of phosphate being 'Moderate') and an objective to reach 'Good' status by 2021.<br><br>Elevated dissolved phosphorus is a key reason for the surface water bodies of the River Avon and River Till failing to achieve "good status" classification under WFD. Dissolved phosphorus concentrations measured in groundwater in 2018 were at or below 11µg/l in all locations, compared to the WFD 'good' class limit of 43ug/l. There are no apparent anthropogenic sources of dissolved phosphorus, but it should be noted that the sites closest to the Phosphatic Chalks did not show notably different concentrations to other sites. Leachate tests on Phosphatic Chalk samples all reported concentrations of orthophosphate below the detection limit, and it is therefore unlikely that the Phosphatic Chalk will yield large concentrations of dissolved phosphorus.<br><br>The dominant calcium carbonate chemistry of the Chalk is likely to generate a precipitated form of phosphorus rather than a soluble form. The general low concentration of orthophosphate measured in the groundwater is in contrast to higher concentrations measured in the River Avon. This suggests that the origin of the natural phosphorus in the surface water is more significant from the Upper Greensand rather than the Chalk. | |
| Surface water abstractions | Environment Agency information indicates that there is one licensed surface water abstraction within 1km of the Scheme. This is located approximately 750m to the south of the Scheme boundary in West Amesbury and is associated with the abstraction of surface water from the River Avon for wetland support.<br><br>The study area does not lie within a surface water Drinking Water Safeguard Zone or Drinking Water Protected Area. | 4 |

## 3.5 Sensitive land use and designations

3.5.1 The study area is located within a groundwater Nitrate Vulnerable Zone (NVZ). These are designated areas of land draining into waters polluted by nitrates from agriculture. The European Nitrates Directive requires NVZ to

be designated and for farmers with land in NVZ to follow mandatory rules to tackle nitrate loss from agriculture.

3.5.2 There are five internationally or nationally significant ecological designated sites within the study area as presented in Table 3-3, together with Stonehenge's WHS status.

**Table 3-3 Ecological designated sites and World Heritage Site**

| Internationally or nationally significant ecological designated sites | Area |
|---|---|
| The River Till in the west of the study area is designated as a SSSI and located within a SAC | 1 |
| Parsonage Down is designated as Site of SSSI and NNR and is located within the western part of the Scheme boundary | 1 |
| Yarnbury Castle is designated as a SSSI and is located at the western extent of the study area | 1 |
| Salisbury Plain is designated as a SAC and Special Protected Area (SPA) and lies within the Scheme boundary in the northern and eastern extents of the study area | 2 and 4 |
| Stonehenge is a WHS | 3 |
| The River Avon in the east of the study area is designated as a SSSI and located within a SAC | 4 |

3.5.3 These features are discussed in more detail in the ES [2], Chapter 6 (Cultural Heritage) and Chapter 8 (Biodiversity).

# 4 Initial Conceptual Site Model

4.1.1 Current good practice recommends that the determination of hazards due to contaminated land is based on the principle of risk assessment, as outlined in the LCRM [4].

4.1.2 The risk assessment process for the environmental contaminants is based on a source-pathway-receptor analysis. These terms can be defined as follows:

- Source: a contaminant or pollutant that is in, on or under the land and that has the potential to cause harm or pollution;
- Pathway: a route by which a receptor is or could be affected by a contaminant; and
- Receptor: something that could be adversely affected by a contaminant, for example a person, controlled waters, an organism, an ecosystem, or Part 2A receptors such as buildings, crops, or animals.

4.1.3 For a risk to be present there must be a viable contaminant linkage, i.e. a mechanism whereby a source impacts on a sensitive receptor via a pathway.

4.1.4 In order to identify the potential contaminant linkages, a conceptual site model of the Scheme was developed as part of the ES [2].

4.1.5 The topography, geology, hydrogeology, and hydrology of the Scheme are the main factors that influence the way in which potential contaminants in the soil or groundwater can be transported on or off site, and the ways in which contamination can affect different receptors. Potential receptors within each of the assessment areas are first summarised in this section. The potential sources (potential contaminated sites) are then identified within each assessment area, and pathways linking any sources to the defined receptors are then summarised.

## 4.2 Receptors

4.2.1 The site-specific receptors were identified based on the proposed land use as well as the environmental setting of the study area.

4.2.2 Table 4-1 presents the potential receptors that were initially identified as part of Chapter 10 of the ES [2] and it identifies which assessment area they apply to.

## Table 4-1 Main receptors across the assessment areas

| Receptor group | Receptor | Receptor sensitivity | Receptor location/description | Assessment area | | | |
|---|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 | 4 |
| Human Health | Residents of existing properties | High | Winterbourne Stoke | ✓ | | | |
| | | | Oatlands Hill | | ✓ | | |
| | | | Amesbury | | | | ✓ |
| | | | Ratfyn | | | | ✓ |
| | Workers in, and visitors to, commercial properties | Moderate | Winterbourne Stoke | ✓ | | | |
| | | | Oatlands Hill | | ✓ | | |
| | | | Amesbury | | | | ✓ |
| | | | Ratfyn | | | | ✓ |
| | Users of public open space and ecologically sensitive sites | Moderate | Parsonage Down SSSI and NNR | ✓ | | | |
| | | | Yarnbury Castle SSSI | ✓ | | | |
| | | | Salisbury Plain SAC and SPA | | ✓ | | ✓ |
| | | | Stonehenge WHS | | | ✓ | |
| | | | Amesbury Park | | | | ✓ |
| Groundwater | Principal aquifer | High | Chalk Group | ✓ | ✓ | ✓ | ✓ |
| | Secondary A aquifer | Moderate | Alluvium | ✓ | | | ✓ |
| | | | River Terrace Deposits | ✓ | | | ✓ |
| | | | Head Deposits (where these consist of gravel) | ✓ | ✓ | ✓ | ✓ |
| | Secondary (undifferentiated) aquifer | Low | Head Deposits (comprising clay, silt, sand, and gravel) | ✓ | ✓ | ✓ | ✓ |
| | Groundwater abstractions[1] | Moderate | WISMA Farm Borehole Point A (general agriculture) and Oatlands Hill | ✓ | | | |
| | | | Winterbourne Stoke Well Point B (general farming and agriculture) | | ✓ | | |
| | | | Borehole ‘A’ at Airman’s Corner (energy – heating pump) | | ✓ | | |
| | | | Druids Lodge Borehole 1 (general agriculture) | | ✓ | | |
| | | High | Borehole ‘B’ at Airman’s Corner (private drinking water supply) | | ✓ | | |
| | | | WISMA Berwick St. James | ✓ | | | |

| Receptor group | Receptor | Receptor sensitivity | Receptor location/description | Assessment area | | | |
|---|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 | 4 |
| | | | Scotland Lodge, Winterbourne Stoke, Salisbury | ✓ | | | |
| | | | Manor Farm | ✓ | ✓ | | |
| | Groundwater SPZ | High | Shrewton, north of Winterbourne Stoke (SPZ1, SPZ2, SPZ3 approximately 600m to 830m from the Scheme boundary) | ✓ | | | |
| | | | North of Amesbury at Durrington (SPZ1, SPZ2 with the SPZ1 located within the study area) | | | | ✓ |
| | | | North of Amesbury at Bulford (SPZ1 and SPZ2, located approximately 400m north of the Scheme boundary) | | | | ✓ |
| | | Moderate | SPZ3 located within the eastern extent of the study area east of Amesbury, for a source approximately 4.2 miles (6.7km) south of the Scheme | | | | ✓ |
| Surface Water | Surface water course | High | River Till [2] | ✓ | ✓ | | |
| | | | River Avon [2] | | ✓ | ✓ | ✓ |
| | | Moderate | Spring system at West Amesbury | | | | ✓ |
| | | | Amesbury Springs within the grounds of Amesbury Abbey | | | | ✓ |
| | Surface water abstractions | Moderate | Surface water abstraction from the River Avon for wetland support | | | | ✓ |
| Built Environment | Underground structures and buried services | Low | Existing and proposed structures and services | ✓ | ✓ | ✓ | ✓ |
| Natural Environment | Ecological and cultural heritage sites | High | River Till SSSI and SAC | ✓ | | | |
| | | | Parsonage Down SSSI and NNR | ✓ | | | |
| | | | Yarnbury Castle SSSI | ✓ | | | |
| | | | Salisbury Plain SAC and SPA | | ✓ | | ✓ |

| Receptor group | Receptor | Receptor sensitivity | Receptor location/description | Assessment area | | | |
|---|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 | 4 |
| | | | Stonehenge WHS | | | ✓ | |
| | | | River Avon SSSI and SAC | | | | ✓ |

[1] *Abstractions licensed at the time of the ES. Appendix 11.4 of the ES also noted that an additional, expired licence was identified at Manor Farm in Winterbourne Stoke, which covered four boreholes for agricultural (general and domestic) purposes and located within 1km of the Scheme. This had been reapplied for in February 2018 and reported to have been subsequently re-licensed.*

[2] *Although the River Till and River Avon are located within Area 1 and Area 4, respectively, the River Till is also a potential receptor applicable to Area 2 and the River Avon a potential receptor applicable to Areas 2 and 3. Although these areas are at considerable distance from the rivers, all potential controlled water receptors are considered regardless of distance and not just those within 50m of the potential contaminated site.*

## 4.3 Sources

### Screening assessment undertaken in the ES

4.3.1 As discussed in Section 1.2, Chapter 10 of the ES [2] identified potential contaminated sites within the DCO limits and within up to 250m from these limits. The qualitative assessment of the risks posed by land contamination within the study area, (defined in Section 1.3), was undertaken in the ES by first assigning a 'site rating' to each identified historical or current area of potential land contamination identified in the baseline review. The methodology for determining a site rating is discussed in detail in Section 10.3 of Chapter 10 of the ES. The site rating was based partly on the relationship between the identified potential contaminated site and its proximity to the Scheme, together with the vertical alignment of the Scheme design at its closest point. The site rating also considered the nature of the current and/or historical land use, as certain land uses typically result in a greater potential for contamination of the ground to have occurred.

4.3.2 The lower the site rating then the lower the considered risk. Professional judgement was applied in reviewing the generated site ratings in the ES [2]. Generally, site ratings of two or less were considered to not pose a significant (unacceptable) risk and were not considered for further assessment in the ES. These sites are therefore not included as potential contaminated sites (viable sources) within this Stage 1, Tier 2 report. Note that the potential contaminated sites located between 50m and 250m from the Scheme were generally scoped out using this methodology as the site rating for these sites was generally calculated to be two or less. Site ratings of three or more were considered for further risk and impact assessment which is described and presented in detail in Section 10.3 of Chapter 10 of the ES.

4.3.3 Appendix 10.2 of the ES [2] provides the screening assessment methodology and the full screening assessment.

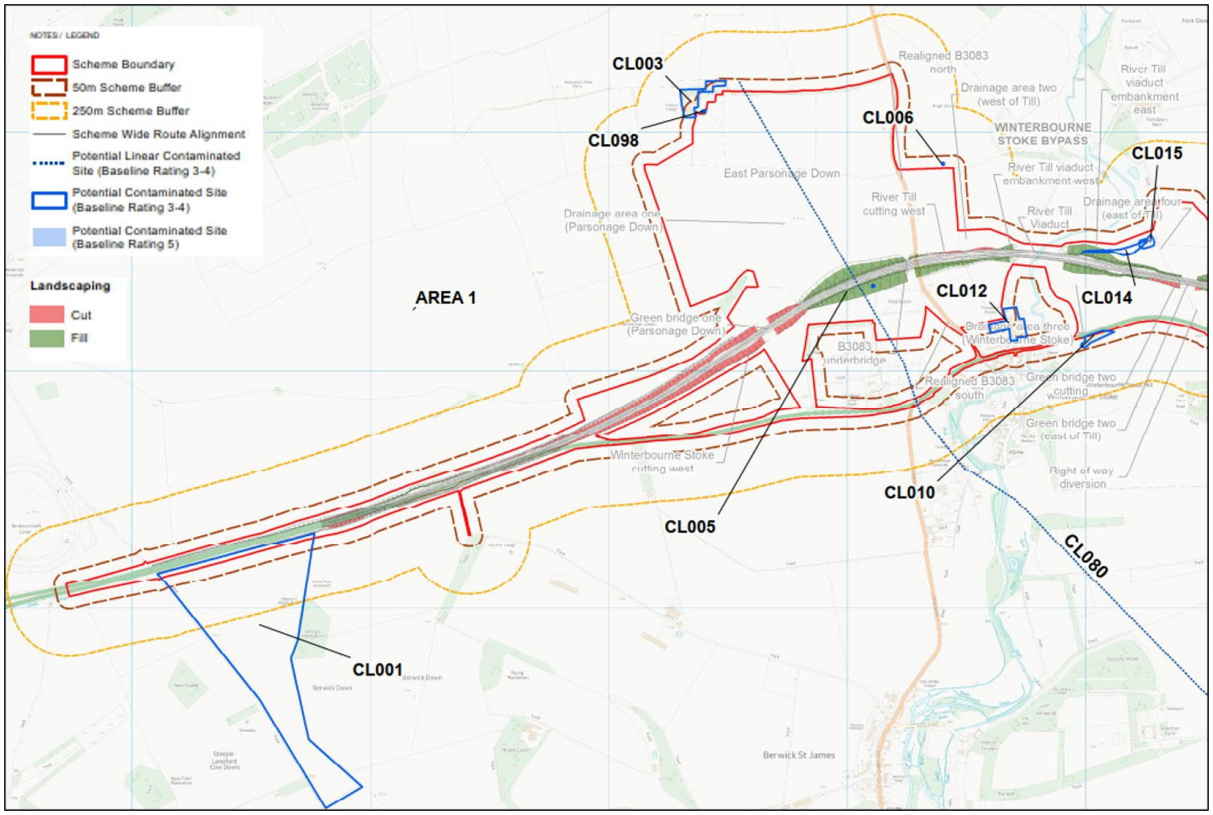
4.3.4 The following sections summarise the potential contaminated sites (with site ratings of three or more) that are located in each of the four assessment

areas. These are the potential sources of contamination referred to within the CSM and risk assessment.

### Area 1 Western Limits to Winterbourne Stoke

4.3.5 Figure 4-1 illustrates the potential contaminated sites within Area 1 and Table 4-2 indicates the site description, including the site rating. See Figure 3A in Appendix A for a full plan of potential contaminated sites in Area 1.

**Figure 4-1 Area 1 Western Limits to Winterbourne Stoke: location of potential contaminated sites**




**Extract from Figure 3A which is presented in Appendix A – Figures*

**Table 4-2 Area 1 Western Limits to Winterbourne Stoke: list of potential contaminated sites and site rating**

| Reference number | Site description | Site rating* |
|---|---|---|
| CL001 | Pig Farm (Berwick Down) | 3 |
| CL003 | Cherry Lodge Farm (formerly Homanton Farm) | 3 |
| CL005 | Pumping House | 3 |
| CL006 | Possible Infilled Ground - former Covered Reservoir | 3 |
| CL010 | Winterbourne Stoke Chalk Pit (1879 - 1926) | 3 |
| CL012 | Manor Farm | 3 |
| CL014 | Unspecified Pit (1878 - 1926). Adjacent/ within Area of Fill (Demolition Rubble) (CL015) | 4 |
| CL015 | Area of Fill (Demolition Rubble) | 4 |
| CL080 | High Pressure Esso Oil Pipeline | 4 |

| Reference number | Site description | Site rating* |
|---|---|---|
| CL098 | Unknown Filled Ground (pit, quarry, etc) | 4 |

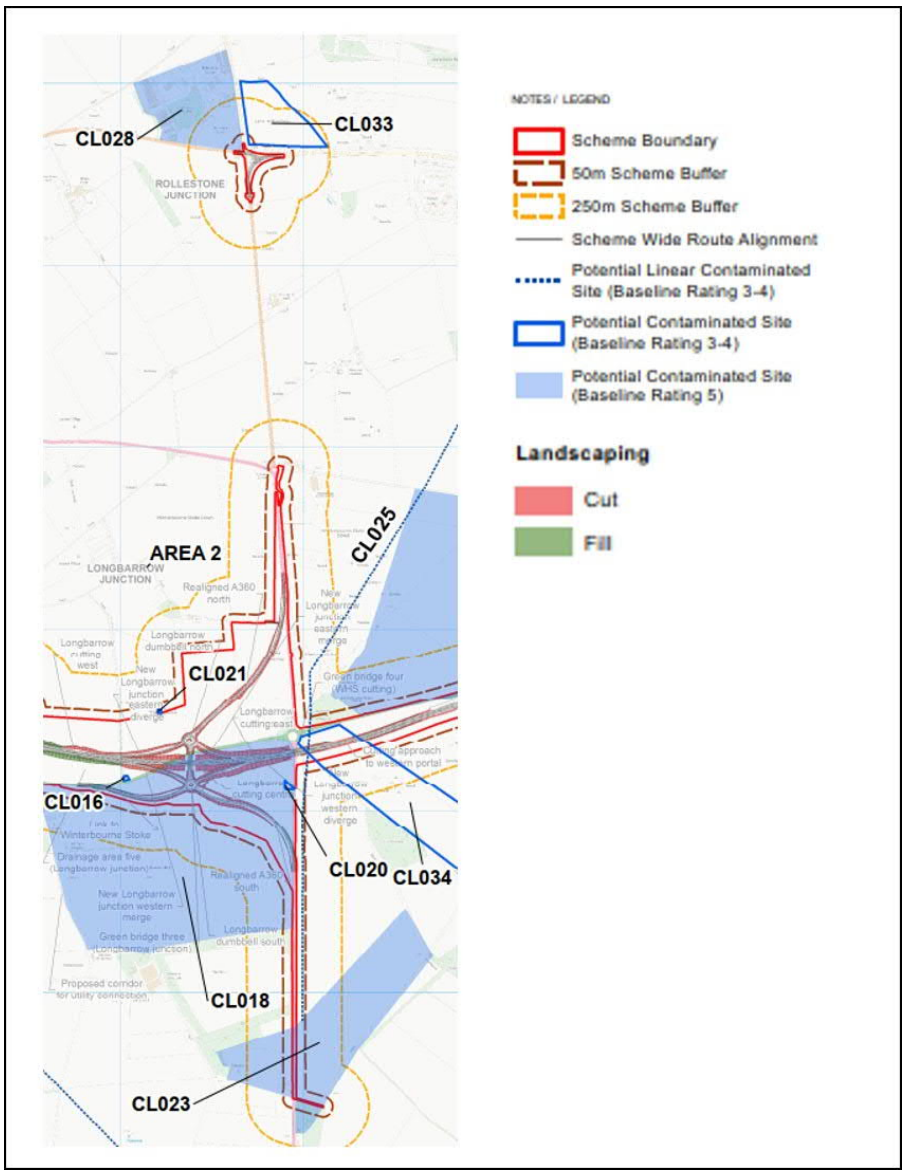
*As defined in the ES*

## Area 2 Longbarrow Junction

4.3.6 Figure 4-2 illustrates the potential contaminated sites within Area 2 and Table 4-3 indicates the site description, including the site rating. See Figure 3B in Appendix A for a full plan of potential contaminated sites in Area 2.

4.3.7 Note that CL035, whilst overlapping into Area 2, is only considered as part of Area 3 as this is where it crosses into the Scheme boundary and the proposed road alignment.

**Figure 4-2 Area 2 Longbarrow Junction: location of potential contaminated sites**




*Extract from Figure 3B which is presented in Appendix A – Figures*

**Table 4-3 Area 2 Longbarrow Junction: list of potential contaminated sites and site rating**

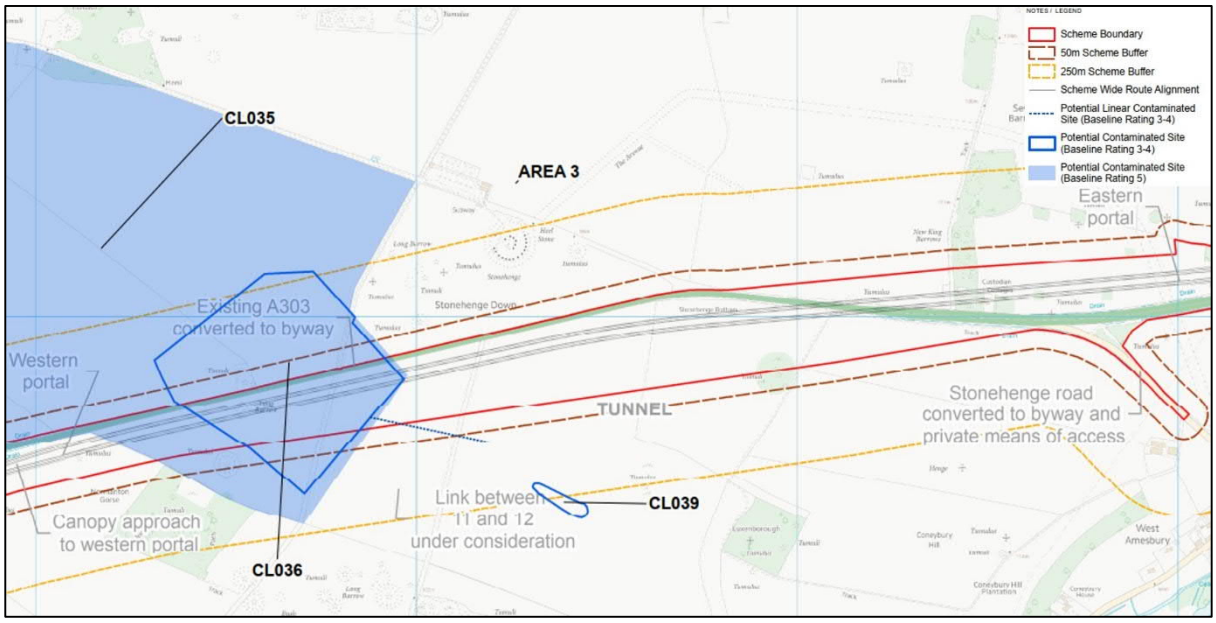
| Reference number | Site description | Site rating* |
|---|---|---|
| CL016 | Historic Barn and Above Ground Tank (1877 - 1961) | 3 |
| CL018 | Former RAF Oatlands Hill (1941 - 1946) | 5 |
| CL020 | Infilled and unspecified Pits and Ground Workings (1879 - 1957) | 4 |
| CL021 | Pump House (and associated former Covered Reservoir - potentially infilled) | 4 |
| CL023 | Former RAF Lake Down (1917 - 1924) | 5 |
| CL025 | Former Larkhill Military Light Railway (Dismantled) | 4 |
| CL028 | Rollestone Camp | 5 |
| CL033 | Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range | 4 |
| CL034 | Pig Farm (Longbarrow Roundabout) | 3 |

**As defined in the ES*

## Area 3 Western Tunnel Portal to Eastern Tunnel Portal

4.3.8 Figure 4-3 illustrates the potential contaminated sites within Area 3 and Table 4-4 indicates the site description, including the site rating. See Figure 3C in Appendix A for a full plan of potential contaminated sites in Area 3.

**Figure 4-3 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: location of potential contaminated sites**




**Extract from Figure 3C which is presented in Appendix A – Figures*

**Table 4-4 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: list of potential contaminated sites and site rating**

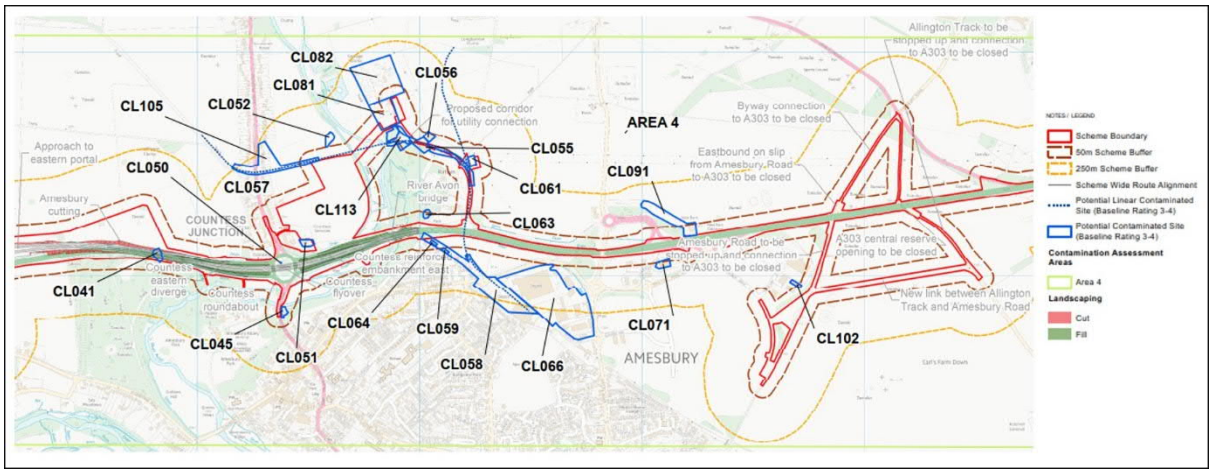
| Reference number | Site description | Site rating* |
|---|---|---|
| CL035 | Former RAF Stonehenge (1917 - 1921) | 5 |
| CL036 | Former Stonehenge Pedigree Stock Farm (1924 - 1926) | 3 |
| CL037 | Former Sewage Outfall (disused 1924, removed 1970) | 4 |
| CL039 | Disused Tip (1974) | 3 |

**As defined in the ES*

## Area 4 Eastern Tunnel Portal to East of Countess Junction

4.3.9 Figure 4-4 illustrates the potential contaminated sites within Area 4 and Table 4-5 indicates the site description, including the site rating. See Figure 3D in Appendix A for a full plan of potential contaminated sites in Area 4.

**Figure 4-4 Area 4 Eastern Portal to East of Countess Junction: location of potential contaminated sites**




**Extract from Figure 3D which is presented in Appendix A – Figures*

**Table 4-5 Area 4 Eastern Portal to East of Countess Junction: list of potential contaminated sites and site rating**

| Reference number | Site description | Site rating* |
|---|---|---|
| CL041 | Former Quarry (1899 - 1961) | 4 |
| CL045 | Former Gas Works (1879 - 1901) and Ground Works (1961) | 4 |
| CL050 | Pumping Station | 3 |
| CL051 | Countess Filling Station | 4 |
| CL052 | Former Gravel Pit (1926 - 1961) | 3 |
| CL055 | Railway Land (historic engine sheds, buildings, tanks, and sidings (1926) | 4 |
| CL056 | MA Motors and recovery - Motor Garage | 4 |
| CL057 | Former SR Bulford Extension Railway (1924 - 1937) | 4 |
| CL058 | Cuttings potentially associated with SR Bulford Extension Railway - potentially infilled | 4 |

| Reference number | Site description | Site rating* |
|---|---|---|
| CL059 | Industrial Repairs and Servicing (Reconditioning Gears) | 3 |
| CL061 | Electricity Sub Station | 4 |
| CL063 | Former Chalk Pit (1878 - 1961) | 3 |
| CL064 | Precision Engineer (Engineering Services) | 4 |
| CL066 | Depot and Warehousing (Minton Distribution Park) | 3 |
| CL071 | Coop Filling Station | 4 |
| CL081 | Electricity Sub Station | 4 |
| CL082 | Sewage Works | 4 |
| CL091 | New Barn' - current unknown industrial activity from aerial photography | 3 |
| CL102 | Motor Works | 3 |
| CL105 | Former Railway Buildings and Sidings near Countess Road | 4 |
| CL113 | Goods Yard - Unknown activity | 3 |

**As defined in the ES*

## 4.4 Pathways

4.4.1 The human health exposure pathways that are considered viable based on the proposed highways end use but also accounting for neighbouring properties and people during the construction phase are listed below:

- dermal contact with soil, soil dust and/or groundwater;
- ingestion of soil, soil dust and/or groundwater;
- inhalation of soil dust;
- inhalation of vapours (from soils and groundwater); and
- inhalation of ground-gases in confined spaces.

4.4.2 The controlled waters (surface water and groundwater) pathways considered viable are as follows:

- mobilisation of soluble contaminants in soils exposed during construction works;
- vertical and lateral migration of leachate through the unsaturated zone to groundwater;
- vertical and lateral groundwater migration; and
- surface water run-off.

4.4.3 The built environment (underground structures and buried services) pathways that are considered viable are as follows:

- ingress and/or accumulation of ground gas/vapours in the proposed tunnel; and
- direct contact of ground with in-ground structures: sulphate attack on concrete foundations and/or permeation of hydrocarbons through plastic potable water supply pipes.

4.4.4 The natural environment (ecological designations) pathways that are considered viable are as follows:

- vertical and lateral groundwater migration to the River Till and River Avon; and

- migration of soil dust and direct contact with statutory sites for nature conservation.

## 4.5 Initial conceptual site model and qualitative risk assessment

4.5.1 For the potential contaminated sites identified for further assessment (Section 4.3), site-specific CSM (for baseline, construction, and post construction) and qualitative risk assessments have been produced and these are presented in Chapter 10 of the ES [2]. Only the baseline CSM have been included for reference in this report and these are included in Appendix B. Sites of similar land use and history were grouped where appropriate. CSM were prepared for the following groups of sites, which included the potential contaminated sites identified in Tables 4-2 to 4-5.

- Esso oil pipeline;
- military land;
- petrol filling stations;
- former gas works;
- railway land;
- light industrial land;
- infilled land; and
- farm sites.

4.5.2 Table 4-6 to Table 4-9 overleaf identify the potential contaminated sites within each of the assessment areas, the baseline CSM risk outcome for each of these sites (based on the CSM provided within the ES, Appendix 10.2 [2] and reproduced in Appendix B). These tables also include the location of the potential contaminated site in relation to the proposed road alignment itself, along with a description of the planned construction activity within the Scheme boundary, at or in proximity to the site. All sites in these tables are either within, or within 50m of, the Scheme boundary (sites between 50m and 250m were scoped out of the assessment, as described in Section 4.3.1).

4.5.3 The tables also highlight where geo-environmental ground investigation data exists and it is these data that are assessed further in this report. Typically, geo-environmental ground investigation data exists for the key potential contaminated sites (Site Rating of 4 or 5) present on, or immediately adjacent, to the proposed road alignment and it is these sites that were highlighted as particularly key potential contaminated sites in the ES. Ground investigation to date has also tended to target the main road alignment.

4.5.4 For the sites listed where ground investigation data does not currently exist, a review has been undertaken that considers the nature of the proposed construction works planned within 50m of these sites. A recommendation is then made on whether additional risk assessment is likely to be required based on the nature of the planned works, and the baseline CSM risk outcome. Wiltshire Council and the Environment Agency will be consulted on these recommendations and specifically on whether additional information or assessment is required to discharge the requirements of the Outline Environmental Management Plan (OEMP) (Appendix 2.2 of the ES

[2]). Where necessary, these mitigation measures will be included in the relevant Construction Environmental Management Plans (CEMPs) for the Scheme. This review and subsequent recommendations are presented in Section 8.

**Table 4-6 Area 1 Western Limits to Winterbourne Stoke: potential contaminated sites, initial baseline CSM and available ground investigation data**

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available**** |
|---|---|---|---|---|---|
| CL001 - Pig Farm (Berwick Down) | 3 | Very low risks | Directly adjacent to the proposed road alignment but not overlapping | Main Works (MW) – Construction of a PRoW to the south of the A303 alignment and calcareous grassland creation on the new highway verge. | No, due to very low baseline risk. |
| CL003 - Cherry Lodge Farm (formerly Homanton Farm) | 3 | Very low to low risks | 870m from the proposed road alignment | No works proposed within CL003 (as it is located outside of the Scheme boundary).<br><br>Closest works are approximately 25m east of Cherry Lodge:<br><br>Preliminary Works (PW) – Archaeological investigation (Strip, Map and Record (SMR)).<br>Scottish and Southern Electricity Networks (SSEN) cable diversion (trenching). | No, due to very low to low baseline risk and distance from the proposed road alignment. |
| CL005 - Pumping House | 3 | Very low to moderate/low risks.<br><br>Moderate/low risks from soils and groundwater to on-site commercial users. However, this is now identified as a historical feature and therefore on-site commercial users are not present. | 20m from the proposed road alignment | PW – Archaeological mitigation (Archaeological Excavation and Recording (AER)).<br><br>MW – Immediately adjacent to a landscaping area (fill area, south of the new alignment). Woodland planting. | No, as although moderate/low risks were identified to on-site commercial users and surface water, this is a historical feature and therefore on-site commercial users are not present. Therefore, risk to human health is very low. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available**** |
|---|---|---|---|---|---|
| CL006 - Possible Infilled Ground - former Covered Reservoir | 3 | Very low to low risks | 360m from the proposed road alignment | No works proposed within CL006 (as it is located outside of the Scheme boundary).<br><br>Closest works are immediately south-east:<br><br>PW – Archaeological mitigation (SMR).<br><br>MW – Removal (under Archaeological Monitoring and Recording (AMR))/realignment of the B3083. | No, due to very low to low baseline risk and distance from the proposed road alignment. |
| CL010 - Winterbourne Stoke Chalk Pit (1879 - 1926) | 3 | Very low to low risks | 230m from the proposed road alignment | No works proposed within CL010.<br><br>Closest works are approximately 75m north of the existing A303:<br><br>PW – Archaeological mitigation (SMR).<br><br>MW – Landscape area (fill). | No, due to very low to low baseline risk and distance from road alignment. No construction works planned within 50m. |
| CL012 - Manor Farm | 3 | Very low to low risks | 190m from the proposed road alignment | No works proposed within CL012 (as it is located outside of the Scheme boundary).<br><br>Closest works are immediately north/north-west:<br><br>MW – Landscape area (fill), although the fill area appears to be +50m from the potential contaminated site. | No, due to very low to low baseline risk and distance from road alignment. No construction works planned within 50m. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available**** |
|---|---|---|---|---|---|
| CL014 - Unspecified Pit (1878 - 1926). Adjacent/ within Area of Fill (Demolition Rubble) (CL015) | 4 | Very low to low risks | Overlaps onto the proposed road alignment (proposed as fill at this location) | PW – Badger sett closure/destruction.<br>Great crested newt mitigation (fencing/ hibernacula removal).<br>Archaeological mitigation (SMR).<br><br>MW – Eastern-most portion of CL014 to form northern half of the west embankment of the Till viaduct.<br>Woodland planting on embankment.<br>Remaining area to be landscaped (fill). Returned to agriculture. | No, due to very low to low baseline risk. |
| CL015 - Area of Fill (Demolition Rubble) | 4 | Very low to low risks | 130m from the proposed road alignment | PW – Badger sett closure/destruction.<br>Great crested newt mitigation (fencing/ hibernacula removal).<br>Archaeological mitigation (SMR).<br><br>MW – Landscape area (fill). Return to agriculture. | No, due to very low to low baseline risk and distance from the proposed road alignment. |
| CL080 - High Pressure Esso Oil Pipeline | 4 | Moderate/low to moderate risks. Moderate/low risks from soils and groundwater to off-site residential users (Cherry Lodge Farm). Moderate risks to groundwater (Principal aquifer), surface water (River Till), property receptors (from ground gas) and ecological designations (Parsonage | Crosses the proposed road alignment | PW – Archaeological mitigation (SMR (for the new alignment) and AMR (for excavation/removal of the redundant pipeline)).<br>Diversion of the existing pipeline (underground – trenching) immediately east of its current location.<br>Excavation and removal of the redundant pipeline. | Yes, although not directly adjacent as a subsurface pipeline so standoff had to be respected and understood. Esso were to conduct their own ground investigations. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available**** |
|---|---|---|---|---|---|
| | | Down SSSI and NNR and River Till SSSI and SAC). | | MW – Eastern embankment of the Till viaduct to cross southern section of the pipeline. Woodland planting on the embankment.<br>Landscape area (fill) north of the embankment). | |
| CL098 - Unknown Filled Ground (pit, quarry, etc) | 4 | Very low to low risks | 880m from the proposed road alignment | No works proposed within CL098 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are approximately 25m east of Cherry Lodge:<br><br>PW – Archaeological investigation (SMR).<br>SSEN cable diversion (trenching). | No, due to very low to low baseline risk and distance from the proposed road alignment. |

**As defined in the ES.*
***Only the receptors that were identified as having moderate/low risk and above have been identified specifically in the table. Only those receptors within 50m of the potential contaminated site were considered within the initial CSM as defined in the ES. Additional consideration of controlled waters receptors identified at a distance greater than 50m is discussed in Appendix D to G and Section 7 and Section 8, where applicable.*
****In relation to the proposed road alignment itself (not the Scheme boundary).*
*****The Ground investigation and chemical testing data available only includes data obtained within the ground investigation phases. Data collected as part of the groundwater monitoring programme are included within Appendix D to G and Section 8.*
*Potential contaminated sites targeted by ground investigation with chemical testing data available are highlighted in green.*

**Table 4-7 Area 2 Longbarrow Junction: potential contaminated sites, initial baseline CSM and available ground investigation data**

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available**** |
|---|---|---|---|---|---|
| CL016 - Historic Barn and Above Ground Tank (1877 - 1961) | 3 | Very low to low risks | 40m from the proposed road alignment | PW – Archaeological mitigation (SMR).<br><br>MW – Immediately south of the eastbound exit/westbound entry slip roads of new Longbarrow Junction. Anticipated to be outside of the highway cutting.<br>Existing A303 to be converted to Private Means of Access (PMA).<br>Woodland planting. | No, due to very low to low baseline risk. |
| CL018 - Former RAF Oatlands Hill (1941 - 1946) | 5 | Very low to moderate/low risks. Moderate/low risks from soils to off-site residential and commercial users (Hill Farm). | Overlaps onto the proposed road alignment | A large portion of CL018 will be unaffected by any construction works.<br><br>PW – Archaeological mitigation (AER, SMR and AMR (removal of the existing A303)).<br>Badger sett closures on the southern embankment of the existing A303.<br>SSEN cable installation (trenching and HDD launch pit location).<br><br>MW – Removal of the existing A303.<br>New Longbarrow junction – dumbbells, slip roads and mainline within cutting.<br>Calcareous grassland creation on verges / cuttings.<br>Return to agriculture. | Yes |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available**** |
|---|---|---|---|---|---|
| CL020 - Infilled and unspecified Pits and Ground Workings (1879 - 1957) | 4 | Very low to low risks | 90m from the proposed road alignment | PW – Archaeological mitigation (SMR).<br>SSEN cable installation (trenching).<br><br>MW – Temporary A360 alignment/diversion to enable removal/construction of Longbarrow.<br>Return to agriculture. | No, due to very low to low baseline risk. |
| CL021 - Pump House (and associated former Covered Reservoir - potentially infilled) | 4 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users (maintenance), and groundwater (Principal aquifer). | 170m from the proposed road alignment | No works planned within CL021 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately south:<br><br>PW – Immediately north of archaeological mitigation (SMR).<br>Water pipeline installation (trenching).<br><br>MW – Return to agriculture. | No, due to distance from the proposed road alignment. |
| CL023 - Former RAF Lake Down (1917 - 1924) | 5 | Very low to moderate/low risks. Moderate/low risks from soils to off-site residential and commercial users. | 570m from the proposed road alignment | PW – SSEN cable installation within A360 highway (trenching within carriageway). | No, due to distance from the proposed road alignment. |
| CL025 - Former Larkhill Military Light Railway (Dismantled) | 4 | Very low to moderate/low risks. Moderate/low risks from soils to groundwater (Principal aquifer). | Overlaps onto the proposed road alignment | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting.<br>Removal of the existing A303 (under AMR)/conversion to PRoW. | Yes, in the region of the former railway alignment as the exact extent is unknown. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available**** |
|---|---|---|---|---|---|
| | | | | Calcareous grassland creation adjacent to cutting, redundant A303 (which is not PRoW, and PRoW verges). | |
| CL028 - Rollestone Camp | 5 | Very low to low risks | Close proximity to the proposed road alignment but not actually overlapping | No works proposed within CL028 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately south:<br><br>PW – Archaeological mitigation (AER).<br>Realignment of Rollestone cross (highways works)/removal of redundant A360 (under AMR).<br>Return to agriculture. | Yes, CL028 is located outside of the Scheme boundary but there is applicable sample testing nearby, within the Scheme boundary. |
| CL033 - Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range | 4 | Very low to low risks | Close proximity to the proposed road alignment but not actually overlapping | No works proposed within CL033 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are south of The Packway:<br><br>PW – Archaeological mitigation (AER).<br>Realignment of Rollestone cross (highways works)/removal of redundant A360 (under AMR).<br>Return to agriculture. | Yes, CL033 is located outside of the Scheme boundary but there is sample testing nearby, within the Scheme boundary. |
| CL034 - Pig Farm (Longbarrow Roundabout) | 3 | Very low risks | Overlaps onto the proposed road alignment | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting. | Yes |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available**** |
|---|---|---|---|---|---|
| | | | | Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation adjacent to cutting, redundant A303 (which isn't PRoW, and PRoW verges). | |

**As defined in the ES.*
***Only the receptors that were identified as having moderate/low risk and above have been identified specifically in the table. Only those receptors within 50m of the potential contaminated site were considered within the initial CSM as defined in the ES. Additional consideration of controlled waters receptors identified at a distance greater than 50m is discussed in Appendix D to G and Section 7 and Section 8, where applicable.*
****In relation to the proposed road alignment itself (not the Scheme boundary).*
*****The Ground investigation and chemical testing data available only includes data obtained within the ground investigation phases. Data collected as part of the groundwater monitoring programme are included within Appendix D to G and Section 8.*
*Potential contaminated sites targeted by ground investigation with chemical testing data available are highlighted in green.*
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**Table 4-8 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: potential contaminated sites, initial baseline CSM and available ground investigation data**

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available |
|---|---|---|---|---|---|
| CL035 - Former RAF Stonehenge (1917 - 1921) | 5 | Very low to moderate/low risks. Moderate/low risks from soils to off-site public open space receptors (Stonehenge). | Overlaps onto the proposed road alignment | MW – Tunnel passes below area.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation along PRoW verges. | Yes |
| CL036 - Former Stonehenge Pedigree Stock Farm (1924 - 1926) | 3 | Very low risks | Overlaps onto the proposed road alignment | MW – Tunnel passes below area.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation along PRoW verges. | Yes |
| CL037 - Former Sewage Outfall (disused 1924, removed 1970) | 4 | Very low to low risks | 70m from the proposed road alignment | No works planned within CL037.<br><br>Closest works +50m from the potential contaminated site (see above for CL036) | No, due to very low to low baseline risk. Furthermore, no works planned within CL037 or within 50m. |
| CL039 - Disused Tip (1974) | 3 | Very low to low risks | 330m from the proposed road alignment | No works proposed within CL039 (outside Scheme).<br><br>No works planned within 50m of the potential contaminated site. | No, due to very low to low baseline risk and distance from the proposed road alignment. Furthermore, no works planned within CL039 or within 50m. |

**As defined in the ES.*
***Only the receptors that were identified as having moderate/low risk and above have been identified specifically in the table. Only those receptors within 50m of the potential contaminated site were considered within the initial CSM as defined in the ES. Additional consideration of controlled waters receptors identified at a distance greater than 50m is discussed in Appendix D to G and Section 7 and Section 8, where applicable.*
****In relation to the proposed road alignment itself (not the Scheme boundary).*
*****The Ground investigation and chemical testing data available only includes data obtained within the ground investigation phases. Data collected as part of the groundwater monitoring programme are included within Appendix D to G and Section 8.*

*Potential contaminated sites targeted by ground investigation with chemical testing data available are highlighted in green.*

**Table 4-9 Area 4 Eastern Tunnel Portal to East of Countess Junction: potential contaminated sites, initial baseline CSM and available ground investigation data**

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available |
|---|---|---|---|---|---|
| CL041 - Former Quarry (1899 - 1961) | 4 | Very low to low risks | Within the proposed road alignment | PW – Archaeological mitigation (SMR).<br><br>MW – Removal of existing A303/construction of new highway within cutting.<br>Calcareous grassland creation and woodland planting. | Yes |
| CL045 - Former Gas Works (1879 - 1901) and Ground Works (1961) | 4 | Very low to moderate/low risks. Moderate/low risks to groundwater (Principal aquifer) and surface water (River Avon). | Located 70m from the proposed road alignment | No works proposed within CL045 (as it is located outside/bordering the Scheme boundary).<br><br>No works planned within 50m of CL045. | No, due to proximity from the proposed road alignment. Furthermore, no works planned within CL045 or within 50m. |
| CL050 - Pumping Station | 3 | Very low to low risks | Located 5m from the proposed road alignment | MW – Embankment for new A303 countess roundabout flyover.<br>Amenity tree and shrub planting. | Yes, but the data is incidental rather than targeted as very low to low baseline risk. Samples were collected for general characterisation of ground conditions across the Scheme in proximity of CL050. |
| CL051 - Countess Filling Station | 4 | Very low to moderate risks. Moderate/low to moderate risks from soils and groundwater to on-site commercial users (petrol station), groundwater (Principal aquifer and Secondary A aquifer), surface water (drain | Located 40m from the proposed road alignment | No works proposed within CL051 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately east: | Yes, although not within the boundary of CL051 due to land access issues. Borehole CPES1 (Phase 7B) located 60m from CL051 (closest position possible), with installation. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available |
|---|---|---|---|---|---|
| | | leading to the River Avon), property receptors (from aggressive ground and ground gas) and ecological receptors (River Avon SSSI). | | MW – Countess Compound, however this should be constructed using 'no-dig' i.e. non-intrusive.<br>Possible construction of the compound exit route (would likely be intrusive – to be confirmed). | |
| CL052 - Former Gravel Pit (1926 - 1961) | 3 | Very low to low risks | Located 440m from the proposed road alignment | No works proposed CL052 (as it is located outside/bordering the Scheme boundary).<br><br>No works planned within 50m of CL052. | No, due to very low to low baseline risk and distance from the proposed road alignment. Furthermore, no works planned within CL052 or within 50m. |
| CL055 - Railway Land (historic engine sheds, buildings, tanks, and sidings) (1926) | 4 | Very low to moderate/low risks. Moderate/low risks from soils to on-site commercial users, groundwater (Principal aquifer) and surface water (River Avon). | Located 300m from the proposed road alignment to the north | MW – Installation of a power cable in the trackway alignment (under AMR) south of the substation. Presumably trenching but to be confirmed. | No, due to distance from the proposed road alignment. |
| CL056 - MA Motors and recovery - Motor Garage | 4 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users, groundwater (Principal aquifer). | Located 390m from the proposed road alignment to the north | No works proposed within CL056 (as it is located outside of the Scheme boundary).<br><br>Should the northern substation be required (currently it is not), a power cable will be installed during MW within the trackway immediately south CL056. | No, due to distance from the proposed road alignment. |
| CL057 - Former SR Bulford Extension Railway (1924 - 1937) | 4 | Very low to moderate/low risks. Moderate/low risks from soils to on-site commercial users, groundwater (Principal aquifer) | Located 210m from the proposed road alignment to the east | See CL055, CL058, CL105, CL113, as CL057 overlaps with all of these potential contaminated sites and therefore, the planned construction activities will be the same. | No, due to distance from the proposed road alignment. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available |
|---|---|---|---|---|---|
| | | and surface water (River Avon). | | | |
| CL058 - Cuttings potentially associated with SR Bulford Extension Railway - potentially infilled | 4 | Very low to moderate/low risks. Moderate/low risks from soils to on-site commercial users, groundwater (Principal aquifer) and surface water (River Avon). | Located 15m from the proposed road alignment to the east | MW – Tie in of the new A303 into the existing. Embankment on north side of the A303.<br>Installation of a power cable within the existing A303 carriageway/verge. | No, sites to the east of the eastern extent of the proposed road alignment weren't targeted by ground investigation. Majority of CL058 located outside the Scheme boundary. |
| CL059 - Industrial Repairs and Servicing (Reconditioning Gears) | 3 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users, groundwater (Principal aquifer) and surface water (drain leading to the River Avon). | Located 120m from the proposed road alignment | No works proposed within CL059 (as it is located outside of the Scheme boundary).<br><br>No works proposed within 50m of the potential contaminated site. | No, due to distance from the proposed road alignment. Furthermore, no works planned within CL059, or within 50m. |
| CL061 - Electricity Sub Station | 4 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users (maintenance), groundwater (Principal aquifer). | Located 360m from the proposed road alignment | No works proposed within CL061 (as it is located outside of the Scheme boundary).<br><br>Closest works are immediately east and south:<br><br>MW – Currently not confirmed whether substation to be upgraded in order to provide power to the eastern portal/tunnel. | No, due to distance from the proposed road alignment. |
| CL063 - Former Chalk Pit (1878 - 1961) | 3 | Very low to low risks | Located 60m from the proposed road alignment | No works proposed within CL063 (as it is located outside of the Scheme boundary)<br><br>Closest works are approximately 45m south: | No, due to very low to low baseline risk. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available |
|---|---|---|---|---|---|
| | | | | MW – Tie in of the new A303 into the existing. Embankment on north side of the A303.<br>Installation of a power cable within the A303 carriageway/verge. | |
| CL064 - Precision Engineer (Engineering Services) | 4 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users, groundwater (Principal aquifer). | Located 60m from the proposed road alignment | No works proposed within CL064 (as it is located outside of the Scheme boundary).<br>Closest works are approximately 35m north:<br>MW – Installation of a power cable within the A303 carriageway/verge.<br>Tie in of the new A303 into the existing A303. | No, sites to the east of the eastern extent of the proposed road alignment were not targeted by ground investigation. CL064 located outside of the Scheme boundary. |
| CL066 - Depot and Warehousing (Minton Distribution Park) | 3 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users, groundwater (Principal aquifer) and surface water (drain leading to the River Avon). | Located 400m from the proposed road alignment | No works proposed within CL066 (as it is located outside of the Scheme boundary).<br>No works are proposed within 50m CL066. | No, due to distance from the proposed road alignment. Furthermore, no works planned within CL066, or within 50m. |
| CL071 - Coop Filling Station | 4 | Very low to moderate risks. Moderate/low to moderate risks from soils and groundwater to on-site commercial users, groundwater (Principal aquifer and Secondary A aquifer), | Located 510m from the proposed road alignment (eastern-most extent near | No works proposed within CL071 (as it is located outside of the Scheme boundary).<br>No works are proposed within 50m of the CL071. | No, due to distance from the proposed road alignment (eastern-most extent). Furthermore, no works planned within CL071, or within 50m. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available |
|---|---|---|---|---|---|
| | | property receptors (from aggressive ground and ground gas). | Allington Track) | | |
| CL081 - Electricity Sub Station | 4 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users (maintenance), groundwater (Principal aquifer) and surface water (River Avon). | Located 450m from the proposed road alignment | Currently no works proposed within CL081 as the northern electricity substation is not planned to be used as part of the Scheme. However, this is not confirmed, and should it be required, the electricity substation is likely to be upgraded. | No, due to distance from the proposed road alignment. |
| CL082 - Sewage Works | 4 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users, groundwater (Principal aquifer) and surface water (lake and River Avon beyond). | Located 570m from the proposed road alignment | No works proposed within CL082 (as it is located outside of the Scheme boundary).<br><br>See above in CL081 regarding the northern electricity substation. | No, due to distance from the proposed road alignment. |
| CL091 - New Barn' - current unknown industrial activity from aerial photography | 3 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users, groundwater (Principal aquifer). | Located 510m from the proposed road alignment (eastern-most extent near Allington Track) | No works proposed within CL091 (as it is located outside/bordering the Scheme boundary).<br><br>No works proposed within 50m of CL091. | No, due to distance from the proposed road alignment (eastern-most extent). Furthermore, no works planned within CL091, or within 50m. |
| CL102 - Motor Works | 3 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users, | Located 50m from the proposed road alignment (eastern-most | No works proposed within CL102 (as it is located outside of the Scheme boundary).<br>No works proposed within 50m of CL102. | No, sites to the east of the eastern extent of the proposed road alignment were not targeted by ground investigation. Furthermore, no |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available |
|---|---|---|---|---|---|
| | | groundwater (Principal aquifer). | extent near Allington Track) | | works planned within CL102, or within 50m. |
| CL105 - Former Railway Buildings and Sidings near Countess Road | 4 | Low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site residential users and groundwater (Principal aquifer). | Located 405m from the proposed road alignment. | No works proposed within CL105 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately south:<br><br>MW – Countess Compound: However, this should be constructed using 'no-dig' i.e. non-intrusive works. | No, due to distance from the proposed road alignment. Furthermore, no works planned within CL105. Works planned within 50m are non-intrusive. |
| CL113 - Goods Yard - Unknown activity | 3 | Very low to moderate/low risks. Moderate/low risks from soils and groundwater to on-site commercial users and groundwater (Principal aquifer). | Located 370m from the proposed road alignment. | No works proposed within CL113 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works would be immediately adjacent (north/east) should the northern electricity substation be required to be upgraded – see CL081. | No, due to distance from the proposed road alignment. |

**As defined in the ES.*
***Only the receptors that were identified as having moderate/low risk and above have been identified specifically in the table. Only those receptors within 50m of the potential contaminated site were considered within the initial CSM as defined in the ES. Additional consideration of controlled waters receptors identified at a distance greater than 50m is discussed in Appendix D to G and Section 7 and Section 8, where applicable.*
****In relation to the proposed road alignment itself (not the Scheme boundary).*
*****The Ground investigation and chemical testing data available only includes data obtained within the ground investigation phases. Data collected as part of the groundwater monitoring programme are included within Appendix D to G and Section 8.*
*Potential contaminated sites targeted by ground investigation with chemical testing data available are highlighted in green.*

# 5 Ground Investigation

## 5.1 Ground investigation phases

5.1.1 The following ground investigation phases are referenced in this assessment as these are the phases of investigation that included chemical testing data and these data are available;

- Preliminary GI - 2000 [9];
- Main GI - 2001 Phase 1 [10];
- Countess Roundabout Improvement 2009 [11] [12];
- Longbarrow Roundabout Improvement [13];
- Early Phase GI [14];
- Phase 6 [15];
- Phase 7 [15];
- Phase 7A Countess [16];
- Phase 7Ai [17];
- Phase 7Aii [18]; and
- Phase 7B - 2020 [19].

## 5.2 Fieldwork

5.2.1 Tables 5-1 to 5-4 describe the extent of ground investigation undertaken in each of the assessment areas, including the soil, soil leachate and groundwater testing at each exploratory hole location. The tables also indicate if the exploratory hole is located within a potential contaminated site boundary or not.

5.2.2 Figures 4A to 4D (Appendix A) illustrate the exploratory holes with chemical testing (soil/soil leachate/groundwater) within each of the assessment areas. They also include those locations associated with the groundwater monitoring programme [1] where chemical data are available.

**Table 5-1 Area 1 Western Limits to Winterbourne Stoke: exploratory holes**

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| Boreholes | Phase 7Ai | R70901 | 0.2m | | | Outside the potential contaminated sites but within the Scheme boundary. |
| | | R71001 | | | 1 Sample | Outside the potential contaminated sites but within the Scheme boundary. |
| | | R71002 | | | 1 Sample | Outside the potential contaminated site potential contaminated sites but within the Scheme boundary. |
| | Phase 7B – 2020 | R70105 | 0m | 0m | | Outside the potential contaminated sites but within the Scheme boundary. |
| | | R70106 | 0.3m, 1m | | | Outside the potential contaminated sites but within the Scheme boundary. |
| | | R70107 | 0.5m | 0.5m | | Outside the potential contaminated sites but within the Scheme boundary. |
| | | R70108 | 0.3m, 1m | | | Outside the potential contaminated sites but within the Scheme boundary. |
| | | R70112 | 0.25m, 1m | 0.25m | | Outside the potential contaminated sites but within the Scheme boundary. |
| | | R70115 | 0.3m | | | Outside potential contaminated sites but within the Scheme boundary. |
| | | R70301 | 0.6m | 0.6m | | Outside potential contaminated sites but within the Scheme boundary. |
| Trial Pits | Early Phase GI | SA501 | 0.1m, 1m | 1m | | Outside potential contaminated sites but within the Scheme boundary. |
| | | STP501 | 0.5m, 1m | 0.5m | | Outside the potential contaminated sites, outside the Scheme boundary. |
| | Phase 7Aii | STP70801 | 0.5m, 2.1m | | | Outside the potential contaminated sites but within the Scheme boundary. |

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| | Phase 7B – 2020 | DTP70701 | 0.5m | | | Outside potential contaminated sites but within the Scheme boundary. |
| | | DTP70702 | 0.3m | | | Outside potential contaminated sites but within the Scheme boundary. |
| | | DTP70703 | 0.5m, 1.5m | | | Outside potential contaminated sites but within the Scheme boundary. |
| | | STP70118 | 0.3m | | | Outside potential contaminated sites but within the Scheme boundary. |
| | | STP70402 | 0.3m | | | Outside potential contaminated sites but within the Scheme boundary. |
| | | STP70501 | 0.3m, 0.5m, 2m | 0.3m | | Outside potential contaminated sites but within the Scheme boundary. |
| | | STP70504 | 0.3m | | | Outside potential contaminated sites but within the Scheme boundary. |
| | | STP70506 | 0.5m | | | Outside potential contaminated sites but within the Scheme boundary. |
| | | STP70508 | 0.5m | 0.5m | | Outside potential contaminated sites but within the Scheme boundary. |
| | | STP70601 | 0.5m | 0.5m0.5m | | Outside potential contaminated sites but within the Scheme boundary. |
| | | STP70602 | 0.3m, 0.9m | | | Outside potential contaminated sites but within the Scheme boundary. |

** Where 0m is indicated, the sample was taken from the surface (range not specified).*
*Potential contaminated sites targeted by ground investigation with chemical testing data available are highlighted in green.*
*Outside potential contaminated sites, but within the Scheme boundary are highlighted in orange.*
*Outside potential contaminated sites and outside the Scheme boundary are highlighted in blue.*

## Table 5-2 Area 2 Longbarrow Junction: exploratory holes

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| Boreholes | Phase 7 | R71805 | 0.3m | | | Within CL034. |
| | | R71817 | 0.1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Phase 7Ai | CP71302 | | | 1 Sample | Within CL018. |
| | | CP71702 | 0m | | | Within CL034. |
| | | R71301 | 0.1m, 0.5m | 35.5m | 1 Sample | Within CL018. |
| | | R71302 | 0.1m | | | Within CL018. |
| | Phase 7Aii | R71202 | 0.5m | 0.5m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R71204 | 0.2m, 0.5m | 0.2m | | Within CL018. |
| | | R71205 | 0.5m | | | Within CL018. |
| | | R71206 | 0.2m | | | Within CL018. |
| | | R71802 | 0.2m, 0.5m | | | Within CL025 and CL034. |
| | | R71803 | 0.2m | 0.2m | | Within CL034. |
| | | R71804 | 0.2m | | | Within CL034. |
| | | R71812 | 0.2m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R71816 | 0.2m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | WS71502 | 0.3m, 0.5m | | | Within CL018. |
| | Phase 7B - 2020 | R71203 | 0m, 0.3m, 1m | 1m | | Within CL018. |
| Trial Pits | Early Phase GI | SA502 | 0m, 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| | | SA503A | 0m, 0.5m | 0.5m | | Within CL018. |
| | Longbarrow Roundabout Improvement | TP1_LRI | 0.3m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP2_LRI | 0.3m | | | Within CL018. |
| | | TP4_LRI | 0.2m | | | Within CL025 and in proximity of CL034. |
| | Phase 7Ai | STP72902 | 0.3m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STP72903 | 0.1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Phase 7Aii | STP71401 | 0.3m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STP71402 | | 0.2m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STP71403 | 0.2m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STP71602 | 0.2m | 0.2m | | Within CL018. |
| | | STP71604 | 0.2m | | | Within CL018. |
| | Phase 7B – 2020 | TP-A | 0.15m, 0.6m, 1.1m | | | In proximity of CL028 and CL033. |
| | | TP-B | 0.3m, 0.5m, 1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP-C | 0.3m, 0.6m, 1.1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |

** Where 0m is indicated, the sample was taken from the surface (range not specified).*
*Potential contaminated sites targeted by ground investigation with chemical testing data available are highlighted in green.*
*Outside the potential contaminated sites, but within the Scheme boundary are highlighted in orange.*
*Outside the potential contaminated sites, and outside the Scheme boundary are highlighted in blue.*

## Table 5-3 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: exploratory holes

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| Boreholes | Early Phase GI | P502B | 0m, 0.7m, 3.2m | 0m | | Outside the potential contaminated sites, outside the Scheme boundary. |
| | | P505 | 0.15m, 0.5m | 0.15m | | Outside the potential contaminated sites, outside the Scheme boundary. |
| | | PX505A | | | 1 Sample | Outside the potential contaminated sites, outside the Scheme boundary. |
| | | R503B | 0m, 6.2m | 6.2m | 1 Sample | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Main GI - 2001 Phase 1 | R13 | | | 1 Sample | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R16 | | | 1 Sample | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Phase 6 | R602 | | 14.9m, 19.95m, 24.35m, 29.7m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R607 | | 13.75m, 16.56m, 18.9m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R608 | | 10.6m, 10.75m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R614 | | 4.05m, 5.85m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R615 | | 11.25m, 13.88m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R616 | | 10.2m, 12m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | RZ603 | | 16.42m, 21.08m, 31.2m | | Outside the potential contaminated sites, but within the Scheme boundary. |

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| | Phase 7 | R71821 | 0.4m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Phase 7Ai | R71901 | 0.1m, 0.5m | | 1 Sample | Within CL035. |
| | | R71902 | 0.1m, 0.4m, 0.5m | | | Within CL035 and CL036. |
| | | R71903 | 0.1m, 0.4m, 0.5m | | 1 Sample | Within CL035 and CL036. |
| | | R71904 | 0.1m, 0.4m, 0.5m | | 1 Sample | Within CL035 and CL036. |
| | Phase 7Aii | R71819 | 0.2m, 0.6m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Phase 7B - 2020 | R71905 | 0.3m, 0.5m | | 1 Sample | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R71908 | 0.3m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R71915 | 0.5m | 0.5m | 1 Sample | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R71917 | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R72001 | 1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Preliminary GI - 2000 | P1 | | | 1 Sample | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | P2 | | | 1 Sample | Outside the potential contaminated sites, but within the Scheme boundary. |
| Trial Pits | Early Phase GI | P510 | 0.5m | | | Outside the potential contaminated sites, outside the Scheme boundary. |
| | | R506A | 0.2m, 0.5m | 0.2m | | Outside the potential contaminated sites, outside the Scheme boundary. |
| | | SA504 | 0.1m, 0.5m | 0.5m | | Outside the potential contaminated sites, outside the Scheme boundary. |

** Where 0m is indicated, the sample was taken from the surface (range not specified).*
*Potential contaminated sites targeted by ground investigation with chemical testing data available are highlighted in green.*
*Outside the potential contaminated sites, but within the Scheme boundary are highlighted in orange.*
*Outside the potential contaminated sites, and outside the Scheme boundary are highlighted in blue.*

**Table 5-4 Area 4 Eastern Tunnel Portal to East of Countess Junction: exploratory holes**

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| Boreholes | Countess Roundabout Improvement 2009 | BH1 | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | BH2_CRI | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Early Phase GI | R507A | 0m, 0.5m, 3.9m, | 0.5m | 1 Sample | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Phase 7A Countess | BH72404 | 0.1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | BH72501 | 0.3m, 0.5m, 2.2m | | | In proximity of CL050. |
| | | BH72502 | 0.1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | WS72403 | 0.4m, 1m, 1.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Phase 7B - 2020 | BH72401 | 0.5m, 1m | 0.5m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | BH72503 | 0.4m | 0.4m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | CP72308 | 0.2m, 0.6m, 1.75m | 0.2m | | Outside the potential contaminated sites, outside the Scheme boundary. |
| | | CP72308A | 0.2m | | 1 Sample | Outside the potential contaminated sites, outside the Scheme boundary. |

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| | | CP72310 | | | 1 Sample | Outside the potential contaminated sites, outside the Scheme boundary. |
| | | CP72602 | 3.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | CPES1 | 0.5m, 3.5m | | 1 Sample | In proximity of CL051 (65m). |
| | | R72004 | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R72005 | 1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R72006 | 0.3m, 1m | 0.3m, 1m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R72101 | 0.25m | 0.25m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | R72102 | 0.3m, 1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| Trial Pits | Countess Roundabout Improvement 2009 | TP1_CRI | 0.2m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP10 | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP11 | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP2_CRI | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP3_CRI | 0.2m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP4_CRI | 0.6m | | | Outside the potential contaminated sites, but within the Scheme boundary. |

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| | | TP7_CRI | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP8_CRI | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP9 | 0.5m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Early Phase GI | SA505 | 0m, 0.8m, 1m | 0.8m | | Outside the potential contaminated sites, outside the Scheme boundary. |
| | | SA506 | 0m, 0.6m | 0m | | In proximity of CL051 (48m). |
| | Phase 7A Countess | STP72501 | 0.1m, 0.3m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STP72502 | 0.1m, 0.3m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | Phase 7B - 2020 | STP72201 | 0.3m | | | In proximity of CL041. |
| | | STP72202 | 0.5m | | | In proximity of CL041. |
| | | STP72202A | 0.3m, 1m | 0.3m | | CL041. |
| | | STP72601 | 0.5m | 0.5m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STPES1 | 0.5m | 0.5m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STPES2 | 0.3m, 1m | 1m | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STPES3 | 0.65m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STPES4 | 0.3m, 1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | STPES5 | 0.5m, 1m | 1m | | Outside the potential contaminated sites, but within the Scheme boundary. |

| Method | Ground investigation reference | Exploratory hole reference | Soil testing sample depth | Soil leachate testing sample depth | Groundwater testing | Exploratory hole location and associated potential contaminated site |
|---|---|---|---|---|---|---|
| | | STPES6 | 0.5m, 1m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP-D | 0.2m, 0.45m, 0.8m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP-E | 0.3m, 0.4m, 0.8m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP-F | 0.4m, 0.8m | | | In proximity of CL105. |
| | | TP-G | 0.4m, 0.7m, 1.4m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP-H | 0.2m, 0.35m, 0.6m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP-J | 0.4m, 0.7m, 1.2m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | TP-K | 0.35m, 0.5m, 0.7m, 1.2m | | | Outside the potential contaminated sites, but within the Scheme boundary. |
| | | WS72401 | 0.3m | 0.3m | | Outside the potential contaminated sites, but within the Scheme boundary. |

** Where 0m is indicated, the sample was taken from the surface (range not specified).*
*Potential contaminated sites targeted by ground investigation with chemical testing data available are highlighted in green.*
*Outside the potential contaminated sites, but within the Scheme boundary are highlighted in orange.*
*Outside the potential contaminated sites, and outside the Scheme boundary are highlighted in blue.*

## 5.3 Chemical laboratory testing

5.3.1 A total of 193 soil samples were tested for a range of determinands using UKAS and MCERTS accredited (where applicable) testing. A total of 58 soil samples were also tested for soil leachate.

5.3.2 Table 5-5 to Table 5-8 summarise the soil, soil leachate and groundwater testing undertaken within each assessment area.

**Table 5-5 Area 1 Western Limits to Winterbourne Stoke: summary of geo-environmental soil, soil leachate and groundwater laboratory testing**

| Analyte group* | Total number of samples reported (soil) | Total number of samples reported (soil leachate) | Total number of samples reported (groundwater) |
|---|---|---|---|
| Total Petroleum Hydrocarbons (TPH) | 31 | 7 | 2 |
| Volatile Organic Compounds (VOC) | 31 | 7 | 2 |
| Polycyclic Aromatic Hydrocarbons (PAH) | 31 | 9 | 2 |
| Semi-volatile Organic Compounds (SVOC) | 31 | 7 | 2 |
| Polychlorinated Biphenyls (PCB) | 6 | | 2 |
| Herbicides and Pesticides | 16 | | 2 |
| Explosives | 9 | 2 | |
| Metals | 31 | 9 | 2 |
| Inorganics | 31 | 9 | 2 |
| Other | 32 | 9 | 2 |
| Asbestos | 8 | | |
| Biological (coliforms, E.coli) | | 2 | |
| Dissolved Gases | | 2 | |

** Further details regarding the analyte groups are presented in Appendix H*

**Table 5-6 Area 2 Longbarrow Junction: summary of geo-environmental soil, soil leachate and groundwater laboratory testing**

| Analyte group* | Total number of samples scheduled (soil) | Total number of samples scheduled (soil leachate) | Total number of samples scheduled (groundwater) |
|---|---|---|---|
| TPH | 44 | 7 | 2 |
| VOC | 41 | 7 | 2 |
| PAH | 44 | 7 | 2 |
| SVOC | 31 | 7 | 2 |
| PCB | 5 | | 2 |
| Herbicides and Pesticides | 6 | | 2 |
| Explosives | 4 | 1 | |
| Metals | 43 | 8 | 2 |
| Inorganics | 42 | 7 | 2 |

| Analyte group* | Total number of samples scheduled (soil) | Total number of samples scheduled (soil leachate) | Total number of samples scheduled (groundwater) |
|---|---|---|---|
| Other | 44 | 8 | 2 |
| Asbestos | 8 | | |
| Biological (coliforms, E.coli) | 1 | 1 | |
| Dissolved Gases | | 1 | |

** Further details regarding the analyte groups are presented in Appendix H*

**Table 5-7 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: summary of geo-environmental soil, soil leachate and groundwater laboratory testing**

| Analyte group* | Total number of samples scheduled (soil) | Total number of samples scheduled (soil leachate) | Total number of samples scheduled (groundwater) |
|---|---|---|---|
| TPH | 29 | 6 | 11 |
| VOC | 29 | 6 | 7 |
| PAH | 29 | 6 | 11 |
| SVOC | 29 | 6 | 11 |
| PCB | 8 | | 9 |
| Herbicides and Pesticides | 16 | | 5 |
| Explosives | 15 | 5 | 4 |
| Metals | 27 | 24 | 11 |
| Inorganics | 27 | 24 | 11 |
| Other | 29 | 6 | 7 |
| Asbestos | 18 | | |
| Biological (coliforms, E.coli) | 3 | 5 | 2 |
| Dissolved Gases | | 5 | 2 |

** Further details regarding the analyte groups are presented in Appendix H.*

**Table 5-8 Area 4 Eastern Tunnel Portal to East of Countess Junction: summary of geo-environmental soil, soil leachate and groundwater laboratory testing**

| Analyte group* | Total number of samples scheduled (soil) | Total number of samples scheduled (soil leachate) | Total number of samples scheduled (groundwater) |
|---|---|---|---|
| TPH | 83 | 15 | 4 |
| VOC | 71 | 14 | 4 |
| PAH | 85 | 15 | 4 |
| SVOC | 53 | 14 | 4 |
| PCB | 6 | | 3 |
| Herbicides and Pesticides | 13 | | 3 |
| Explosives | 25 | 3 | 4 |

| Analyte group* | Total number of samples scheduled (soil) | Total number of samples scheduled (soil leachate) | Total number of samples scheduled (groundwater) |
|---|---|---|---|
| Metals | 85 | 15 | 4 |
| Inorganics | 85 | 15 | 4 |
| Other | 85 | 15 | 4 |
| Asbestos | 46 | | |
| Biological (coliforms, E.coli) | | 3 | 1 |
| Dissolved Gases | | 3 | 1 |

** Further details regarding the analyte groups are presented in Appendix H.*

5.3.3 Table 5-9 summarises the data taken from the groundwater monitoring programme conducted across the Scheme between 2018 and 2021 [1]. These data have been included to supplement that collected during the ground investigations.

5.3.4 Data have been included for monitoring wells located at the potential contaminated sites, or for wells within 250m down-hydraulic gradient of these sites (based on the inferred groundwater flow direction), and for wells previously monitored during the ground investigations.

**Table 5-9 Summary of groundwater monitoring programme laboratory testing**

| Assessment area | Wells | Start date | End date | Number of samples | Analytical suite* |
|---|---|---|---|---|---|
| Area 1 | RX629 | 29/08/2018 | 25/01/2021 | 9 | TPH, VOC, PAH, SVOC, PCB, Herbicides and Pesticides, Metals, Inorganics, Other |
| | SU04/ Scotland | 27/10/2020 | - | 1 | |
| Area 2 | RX630 | 23/08/2018 | - | 1 | TPH, VOC, PAH, SVOC, PCB, Herbicides and Pesticides, Metals, Inorganics, Other |
| | SU04/ Windmill | 20/10/2020 | 25/01/2021 | 2 | |
| | W1 | 15/04/2019 | 22/01/2021 | 9 | |
| Area 3 | PX505A | 18/04/2018 | 23/10/2020 | 10 | TPH, VOC, PAH, SVOC, PCB, Herbicides and Pesticides, Metals, Inorganics, Other |
| | PX506 | 18/04/2018 | 23/10/2020 | 10 | |
| | R503B | 11/04/2018 | 23/10/2020 | 10 | |
| | RX633 | 23/08/2018 | 21/01/2021 | 9 | |
| | RX634 | 17/04/2019 | 18/01/2021 | 7 | |
| Area 4 | AS | 26/01/2018 | 20/01/2021 | 6 | TPH, VOC, PAH, SVOC, PCB, Herbicides and Pesticides, Metals, Inorganics, Other |
| | R507A | 22/02/2018 | 26/01/2021 | 13 | |
| | WS02 | 19/05/2020 | 20/01/2021 | 5 | |

** Further details regarding the analyte groups are presented in Appendix H*

## 5.4 Holding time exceedances

5.4.1 Appendix I presents a summary of where holding times of samples have been exceeded throughout the phases of investigation since the GIR [6] and therefore a potential for deviating results.

## 5.5 Ground conditions

5.5.1 Table 5-10 to Table 5-13 present a summary of the ground conditions encountered within each of the four assessment areas. This is based on a review of the exploratory holes from all phases of investigation across the study area. It includes any description of visual and/or olfactory signs of contamination, where encountered.

**Table 5-10 Area 1 Western Limits to Winterbourne Stoke: summary of ground conditions encountered**

| Stratum | Description | Minimum depth and maximum depth encountered (m bgl) | Proven thickness |
|---|---|---|---|
| Topsoil | Topsoil is present in the majority of the exploratory holes as the uppermost layer. | 0.0 | 0.09 – 1.5[1] |
| Made Ground | Very locally encountered, including locations east and south of Parsonage Down. Described as brown sandy gravel or gravelly sand of flint with occasional chalk and tarmac, and rare concrete, brick, wood, metal, and rope. Gravel is subangular to rounded. | 0.0 | 0.3 – 2.0 |
| Head Deposits | Head deposits are not present across the entire study area but have been identified at several locations, particularly where the Scheme crosses fluvial and ephemeral valleys.<br>The most significant presence of Head Deposits was found in the River Till valley. Head deposits have been generally described as silty, sandy gravel of flint and occasional chalk, with rare cobbles of flint and with more typical thickness ranges of between 1.7m to 3m.<br>Head deposits have also been encountered along a tributary valley which lies to the west of the River Till. In this area it has been described as silty, sandy gravel with occasional flint cobbles. Typical thicknesses ranged from 0.2m to 1.75m in this area. | 0.0 – 1.9 | 0.15 – 4.15 |
| Alluvium | Alluvium is present in the River Till valley at Winterbourne Stoke. It is described as predominantly granular (very clayey, occasionally gravelly sand). Some more cohesive deposits encountered comprising sandy gravelly silt or clay, particularly in the western extent of Area 1. | 0.1 – 0.3 | 0.1 – 3.4[2] |
| River Terrace Deposits | Not encountered in Area 1. | - | - |
| White Chalk Subgroup | The Seaford Chalk Formation has been identified at outcrop.<br><br>The Lewes Nodular Chalk Formation is the oldest Chalk formation and has been proved only in the deepest exploratory-hole locations. | 0 – 4.65[3] | Not proven |

| Stratum | Description | Minimum depth and maximum depth encountered (m bgl) | Proven thickness |
|---|---|---|---|
| | Structureless Chalk has been identified overlying structured Chalk throughout the study area and is typically present at the upper horizons. The structureless Chalk is typically 1m in thickness on the higher elevations in the interfluve zones but deeper and thicker in the area of the River Till valley (up to 18m thick) and around Parsonage Down (up to 15m thick). | | |

*[1] Basic logging description by subcontractor in an early phase of investigation. Topsoil thickness is averaged at approximately 0.3m scheme-wide if the deeper topsoil layers are not considered.*
*[2] Full thickness was not proven due to termination of exploratory hole.*
*[3] Although no core recovery above this depth, from 2m bgl.*
**m bgl = meters below ground level.*

### Table 5-11 Area 2 Longbarrow Junction: summary of ground conditions encountered

| Stratum | Description | Minimum depth and maximum depth encountered (m bgl) | Proven thickness |
|---|---|---|---|
| Topsoil | Topsoil is present in the majority of the exploratory holes as the uppermost layer. | 0.0 | 0.09 – 1.5[1] |
| Made Ground | Made Ground was identified near to the existing Longbarrow Roundabout. In the area of the Longbarrow Roundabout, four trial pits proved Made Ground which was generally described as brown sandy gravelly silt up to 1.25m in thickness. | 0.0 | 0.4 – 1.25[2] |
| Head Deposits | Head deposits are not present across the entire study area but have been identified at several locations, particularly where the Scheme crosses fluvial and ephemeral valleys. Head deposits were encountered on high ground to the east of the River Till Valley. These are variable, with clay, silt, sand, or gravel as the main component. | 0.0 – 0.6 | 0.05 – 1.2 |
| Alluvium | Not encountered in Area 2. | - | - |
| River Terrace Deposits | Not encountered in Area 2. | - | - |
| White Chalk Subgroup | The Seaford Chalk Formation has been identified at outcrop.<br><br>The Lewes Nodular Chalk Formation is the oldest Chalk formation and has been proved only in the deepest exploratory hole locations. | 0.0 – 1.4 | Not proven |

| Stratum | Description | Minimum depth and maximum depth encountered (m bgl) | Proven thickness |
|---|---|---|---|
| | Structureless Chalk has been identified overlying structured Chalk throughout the study area and is typically present at the upper horizons. The structureless Chalk is typically 1m in thickness on the higher elevations in the interfluve zones. | | |

*[1] Basic logging description by subcontractor in an early phase of investigation. Topsoil thickness is averaged at approximately 0.3m scheme-wide if the deeper topsoil layers are not considered.*
*[2] Full thickness was not proven due to termination of exploratory hole.*

### Table 5-12 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: summary of ground conditions encountered

| Stratum | Description | Minimum depth and maximum depth encountered (m bgl) | Proven thickness |
|---|---|---|---|
| Topsoil | Topsoil is present in the majority of the exploratory holes as the uppermost layer. | 0.0 | 0.09 – 1.5[1] |
| Made Ground | Rarely encountered. Borehole locations within Normanton Down recorded 0.3m to 0.35m Made Ground described as brown sandy gravelly silt or silty gravel with occasional tile fragments, potentially asbestos containing. Gravel of chalk, flint, and brick. | 0.0 | 0.3 – 0.35 |
| Head Deposits | Head deposits are not present across the entire study area but have been identified at several locations, particularly where the Scheme crosses fluvial and ephemeral valleys. More cohesive Head deposits have been identified to the west of Stonehenge Bottom where they have been described as sandy, gravelly clay or silt. Granular deposits have occasionally been encountered. | 0.2 – 0.8 | 0.17 – 2.0 |
| Alluvium | Not encountered in Area 3. | - | - |
| River Terrace Deposits | Not encountered in Area 3. | - | - |
| White Chalk Subgroup | The Newhaven Chalk Formation is the youngest formation of the White Chalk Subgroup identified within the study area, and outcrops over higher ground in the interfluve regions either side of Stonehenge Bottom. The Seaford Chalk Formation has been identified either at outcrop or underlying the Newhaven Chalk Formation.<br><br>The Lewes Nodular Chalk Formation is the oldest Chalk formation and has been proven only in the deepest exploratory hole locations. | 0.0 – 3.2[6] | Not proven |

| Stratum | Description | Minimum depth and maximum depth encountered (m bgl) | Proven thickness |
|---|---|---|---|
| | Structureless Chalk has been identified overlying structured Chalk throughout the study area and is typically present at the upper horizons. The structureless Chalk is typically 1m in thickness on the higher elevations in the interfluve zones but deeper and thicker in the area of the Stonehenge Bottom dry valley (up to 7m thick). | | |
| Phosphatic Chalk | Phosphate-containing Chalk has been identified in the area to the west of Stonehenge Bottom based on the description of the recovered cores, samples and results from down-hole natural gamma logging carried out in the historical ground investigations.<br>The Phosphatic Chalk is described as a variably, and often weakly, cemented brown sandy Chalk with pelletal Phosphatic grains. The top of the Phosphatic Chalk has been logged at depths ranging from 1.8m bgl to 43.6m bgl. Due to the apparent interbedded nature of the Phosphatic Chalk, its thickness can be considered in terms of both interbedded and absolute thicknesses. Typical interbedded thicknesses[4] logged for Phosphatic Chalk range from 0.1m to more than 23.5m, with logged absolute thicknesses[5] ranging between 0.1m and 34.6m. The maximum thickness of Phosphatic Chalk was not proven during the ground investigation. | 1.8 – 43.6 | 2.15[3] – 34.6[2] |

*[1] Basic logging description by subcontractor in an early phase of investigation. Topsoil thickness is averaged at approximately 0.3m scheme-wide if the deeper topsoil layers are not considered.*
*[2] Full thickness was not proven due to termination of exploratory hole.*
*[3] The thickness range does not include the possible Phosphatic nodules (<10mm) noted in boreholes 16175-R15A and 21762-R149.*
*[4] Interbedded thickness is the thickness of each continuous Phosphatic Chalk occurrence.*
*[5] Absolute thickness is the difference between the top depth of first Phosphatic Chalk occurrence and the base depth of the last Phosphatic Chalk occurrence in a borehole.*
*[6] Although no core recovery above this depth, from 1.2m bgl.*

### Table 5-13 Area 4 Eastern Tunnel Portal to East of Countess Junction: summary of ground conditions encountered

| Stratum | Description | Minimum depth and maximum depth encountered (m bgl) | Proven thickness |
|---|---|---|---|
| Topsoil | Topsoil is present in majority of the exploratory holes as the uppermost layer. | 0.0 | 0.09 – 1.5[1] |
| Made Ground | **General description;**<br><br>Made Ground was identified near to the existing Countess Roundabout. The Made Ground was found to | 0.0 | 0.1 – 4.95 |

| Stratum | Description | Minimum depth and maximum depth encountered (m bgl) | Proven thickness |
|---|---|---|---|
| | be variable, comprising silt, sand, gravel, clay, and highly weathered chalk; although silt and sand were the dominant lithology. Gravel tends to be comprised of flint and chalk, with occasional brick and tarmac. Rare wood/glass/plastic/ceramic/metal.<br>Made Ground was also identified in the region of Amesbury Road and Allington Track, proven to depths between 0.15m and 0.5m bgl and described as either sandy gravelly clay, gravelly sand, or sandy gravel. Gravel of flint, sandstone, chalk and granite, and rare plastic.<br><br>**Visual and olfactory evidence of contamination;**<br><br>Gravel of ash and clinker with a strong hydrocarbon odour was noted locally in trial pit TP4[3] (north-west part of the roundabout) between 0.6m and 0.8m bgl which extended horizontally for approximately 1.20m. No olfactory evidence of hydrocarbon impact was observed in the underlying Alluvium in trial pit TP4[3]. This was attributed to a localised fuel spillage. Six hand-dug pits were undertaken in the Phase 7B investigation in the vicinity of TP4[3]; all encountered Made Ground down to the base of the hole (1.2m bgl), although no visual or olfactory evidence of contamination was noted.<br>A strong hydrocarbon odour was noted in CP72308 (south-west of the roundabout) between 0.15m and 0.3m bgl. No olfactory evidence of hydrocarbon impact was observed in the underlying Made Ground or Alluvium, or in CP72308A which was located approximately 2m south of CP72308.<br>A faint hydrocarbon odour and black staining was noted in WS72401 (west of the roundabout) between 0.15m and 0.3m bgl. The thickness of the Made Ground was not proven beyond 0.3m bgl as it was hand-dug for archaeological purposes. | | |
| Head Deposits | Head deposits are not present across the entire study area but have been identified at several locations, particularly where the Scheme crosses fluvial and ephemeral valleys, including the River Avon. These are variable, with clay, silt, sand, or gravel as the main component. | 0.3 – 0.5 | 0.3 – 1.25 |
| Alluvium | Alluvium has been identified in the River Avon valley, and is generally overlain by Made Ground around the area of the Countess Roundabout. Alluvium around Countess Roundabout and the River Avon has generally been noted to be more cohesive than around the River Till. Cohesive Alluvium has been identified to be approximately 0.2m to 2.25m in thickness, and typically | 0.0 – 6.0 | 0.1[2] – 3.9 |

| Stratum | Description | Minimum depth and maximum depth encountered (m bgl) | Proven thickness |
|---|---|---|---|
| | described as silty, slightly sandy, gravelly organic clay or silt, with occasional pockets of peat and organic matter. Slight hydrogen sulphide odour was also noted in borehole R167. | | |
| River Terrace Deposits | River Terrace Deposits that are predominantly granular in nature have been recorded in the River Avon valley up to 5.8m in thickness. This stratum is found underlying the Alluvium and has been described as brown to brownish-grey, silty sand and/or gravel with occasional flint cobbles.<br>Slight hydrocarbon odour was noted in CP72602 between 3.5m and 5.0m bgl. | 0.3 – 4.2 | 0.2[2] – 5.8 |
| White Chalk Subgroup | The Seaford Chalk Formation has been identified at outcrop.<br><br>The Lewes Nodular Chalk Formation is the oldest Chalk formation and has been proved only in the deepest exploratory-hole locations.<br><br>Structureless Chalk has been identified overlying structured Chalk throughout the study area and is typically present at the upper horizons. The structureless Chalk is typically 1m in thickness on the higher elevations in the interfluve zones but deeper and thicker in the area of the Countess Roundabout/River Avon valley (up to 10m thick). | 0.0 – 9.3 | 0.4[2] – 50.65[2] |

*[1] Basic logging description by subcontractor in an early phase of investigation. Topsoil thickness is averaged at approximately 0.3m scheme-wide if the deeper topsoil layers are not considered.*
*[2] Full thickness was not proven due to termination of exploratory hole*
*[3] TP4 indicated within Made Ground description for the purposes of the generic quantitative assessment was required to be labelled as TP4_CRI" in order to distinguish the location from another of the same name excavated during other GI. CRI = Countess Roundabout Investigation. TP4_LRI – Longbarrow Roundabout Investigation. TP4_CRI and TP4_LRI are used from this point forward in the report.*

## 5.6 Groundwater

5.6.1 Groundwater conditions, based on monitoring data collected during the various phases of ground investigation, are summarised in 5.6.2 to 5.6.7, below. The ground investigation data have been supplemented by the results of the groundwater monitoring programme conducted across the Scheme area between January 2018 and January 2021 [1], and the groundwater risk assessment conducted for the ES [2] (presented in Appendix 1.4 of the ES).

5.6.2 Groundwater was encountered in 15 out of the 62 wells installed during the ground investigation or groundwater monitoring programme. All locations except one encountered groundwater in the Chalk. At this other location, groundwater was encountered in the Made Ground. The recorded

groundwater strikes in the Chalk were between 6.1m and 46m depth (56.8 and 101.5m aOD).

5.6.3 During the groundwater monitoring programme, groundwater levels were recorded in monitoring wells across the Scheme at between 60m and 90m aOD.

5.6.4 The estimated unsaturated zone thickness was between 0m and over 40m. The greater thickness was in the central part of the Scheme (Area 2 and Area 3) with over 10m seasonal fluctuation in groundwater levels also recorded across this central part of the Scheme. Closer to the River Till and River Avon in Area 1 and 4 the unsaturated thickness was lower (<2m) with more limited seasonal variation.

5.6.5 Groundwater flow in the Chalk aquifer in the Scheme area is generally from north to south with flow at high groundwater levels converging towards the River Till in the west of the study area and towards the River Avon in the east of the study area. The groundwater discharges naturally as baseflow to the rivers.

5.6.6 The groundwater monitoring programme elevation data indicate that groundwater flow direction varies seasonally. Flow is generally north-south at lower groundwater levels discharging to the River Avon at the end of the Stonehenge Bottom in the east. At high groundwater levels, flow is inferred to be towards the south east on the eastern side of Stonehenge Bottom to the River Avon. On the western interfluve (Stonehenge Down) groundwater flow is inferred to be more to the south west towards the River Till.

5.6.7 Groundwater levels in the Chalk aquifer respond rapidly to recharge events due to a low storage capacity. Significant changes in groundwater level can occur over short periods of time. The seasonal fluctuations in the groundwater level tend to be less in the dry valleys (8m to 10m) than below topographic divides (approximately 15m). Boreholes located close to the rivers in the groundwater discharge area show a limited seasonal fluctuation (approximately 2m).

5.6.8 Groundwater in the Chalk is of a calcium bicarbonate type, with chemistry generally consistent with the BGS baseline data for the Chalk in Hampshire [22]. Background groundwater chemistry data for selected determinands assessed in the Generic Quantitative Risk Assessment (GQRA) in Appendices D to G are presented in Table 5-14, below. These are taken from for the baseline quality determined by the BGS for this aquifer [22].

**Table 5-14 Summary of background groundwater chemistry**

| Determinand | Units | BGS mean background level | BGS maximum background level |
|---|---|---|---|
| Cadmium | µg/l | 0.089 | 2.44 |
| Chromium | µg/l | 0.355 | 2.90 |
| Copper | µg/l | 6.68 | 31.8 |
| Iron | µg/l | - | 36000 |
| Manganese | µg/l | 21 | 726 |

| Determinand | Units | BGS mean background level | BGS maximum background level |
|---|---|---|---|
| Nickel | µg/l | 3.04 | 10.9 |
| $NO_2$ (Nitrite) | mg/l | 0.0017 | 0.010 |
| $NO_3$ (Nitrate) | mg/l | 6.58 | 12.6 |
| Phosphorus | µg/l | 40 | 308 |
| Lead | µg/l | 0.447 | 1.35 |
| Zinc | µg/l | 21.8 | 253 |

## 5.7 Ground gas

5.7.1 The baseline CSM presented in Appendix B identify whether there is a potential risk from ground gas from the potential contaminated sites to the human health and/or property receptors.

5.7.2 There was considered to be a very low to low risk from inhalation of ground gases to human health.

5.7.3 There was considered to be a moderate risk to property receptors from exposure to explosive gases in some cases. This risk was identified from the following sites; CL080 High Pressure Esso Oil Pipeline (Area 1), CL051 Countess Filling Station (Area 4) and CL071 Coop Filling Station (Area 4). The property receptors include off-site residential and commercial buildings and the on-site petrol station buildings. The moderate ratings were assigned as a result of the potential consequence of the hazard rather than the probability of such an event occurring. The likelihood of a risk associated with ground gas and or vapour was considered low.

5.7.4 The potential for ingress and/or accumulation of ground gas in the proposed tunnel (Area 3), originating from CL080 (Area 1), CL051 (Area 4) and CL071 (Area 4) is very unlikely given the distance of these potential contaminated sites from the tunnel, which is more than 1km away.

5.7.5 The OEMP (Appendix 2.2 of the ES [2]) sets out the geology and soils-related construction phase monitoring requirements. These are that the contractor shall prepare and implement a gas monitoring procedure based on the potential for presence of underground gases; the contractor would undertake monitoring of the atmosphere within excavations to assess the development of any potentially explosive and/or asphyxiant conditions; and that any land restored to agriculture would be subject to a 5-year period of condition monitoring.

5.7.6 Based on the requirement for the OEMP to provide ground gas monitoring, no further assessment is required with regard to ground gas. Therefore, a ground gas assessment has not been undertaken as part of this report.

# 6 Land Contamination Risk Assessment – Human Health (GQRA)

## 6.1 General

6.1.1 The findings of the ground investigations and the chemical analysis undertaken together with the CSM established in Section 4, have been used as the basis for undertaking a Generic Quantitative Risk Assessment (GQRA). The GQRA aims to quantify the potential risks identified in relation to the potential sources and linkages previously summarised in the initial CSM through the screening of sample data. Presentation of this GQRA is consistent with the staged approach described in LCRM [4].

6.1.2 Soil samples were taken during the ground investigations to provide an understanding of the baseline soil quality along the Scheme, and to provide soil quality data where the Scheme also crossed some of the key potential contaminated land sites described in Section 4.

6.1.3 A total of 193 soil samples were recovered across the various ground investigations, and these were submitted for laboratory analysis for the suite of determinands presented in Tables 5.5 to 5.8

6.1.4 To provide some context to the measured concentrations within the soils sampled, a GQRA has been undertaken as an initial conservative screen based on a set of default assumptions about land use, soil types and critical receptor exposure. The GQRA methodology and approach is presented in more detail in Appendix C.

6.1.5 An assessment has been undertaken for each of the four assessment areas. The soil results were screened against generic Evaluation Criteria (EC) that are considered to be protective of human health, based on a public open space (parks) end-use scenario (consistent with the approach taken in the Preliminary GIR submitted alongside the ES). The results of the assessments and GQRA are presented within Appendices D to G, with the full screening tables presented in Appendix H.

6.1.6 Where a potential risk is identified at the GQRA stage, more detailed quantitative risk assessment (DQRA) is then normally undertaken using more site-specific information, or mitigation is developed and implemented to reduce the level of risk to acceptable levels.

6.1.7 The methodology and assumptions presented for human health discussed in Appendix C are not applicable to the short-term, and typically high frequency of exposure experienced by construction/maintenance workers. It has been assumed that the risk to this receptor group will be appropriately managed through construction health and safety legislation and practices, including for groundworkers to assess site specific risk to health and incorporate appropriate mitigation. Personal protective equipment will also be a minimum requirement for site workers. The main potential contamination linkages applicable to construction/maintenance workers are:

- Direct contact with, or ingestion of, contaminants within soils, groundwater, and soil derived dust;

- Inhalation of organic vapours from soils, groundwater, and soil derived dust (primarily asbestos); and
- Ground gas inhalation/explosion risk.

6.1.8 The OEMP (Appendix 2.2 of the ES [2]) states that the main works contractor shall implement measures on site, in accordance with CIRIA C741 4th Edition Environmental Good Practice [23], to assess and control risks to humans, e.g. construction workers, site visitors and nearby residents, resulting from the disturbance of contaminated land.

6.1.9 The OEMP states that the contractor shall prepare and implement a gas monitoring procedure based on the potential for presence of underground gases; the contractor would undertake monitoring of the atmosphere within excavations to assess the development of any potentially explosive and/or asphyxiant conditions. Therefore, this will provide mitigation for potential impact from ground gas during construction.

6.1.10 The following sections provide a summary of the GQRA findings for each of the four assessment areas with regards to risk to human health. Full details of the GQRA are presented in Appendices D to G.

## 6.2 Area 1 Western Limit to Winterbourne Stoke: risk summary and evaluation

6.2.1 A total of 32 soil samples were screened against the adopted EC within Area 1. Of those, 30 were obtained from areas outside of the identified potential contaminated sites but within the Scheme boundary. Two additional samples were obtained from outside of the Scheme boundary.

6.2.2 The locations from where soil samples have been taken are presented in Figure 4A.

6.2.3 The human health GQRA for Area 1 is presented in Appendix D with the GQRA screening table for Area 1 presented in Appendix H.

6.2.4 The results of the GQRA (Appendix H) indicated that all soil samples analysed within Area 1 reported concentrations that were less than the adopted EC designed to be protective of human health within a public open space (park) end-use scenario.

6.2.5 No asbestos was detected within any of the eight soils samples analysed for the presence of asbestos within Area 1. This included four samples obtained from along the Scheme alignment, where ground disturbance is most likely.

6.2.6 Based on the results of the GQRA, and the available soil samples obtained, it is concluded that there is unlikely to be an unacceptable risk to human health from the soils sampled within Area 1.

6.2.7 Although no specific soils samples were able to be obtained from within the potential contaminated sites within Area 1, the concentrations observed from the soil samples obtained generally from within Area 1 as a whole were reported to be low.

## Potential contaminated sites, planned construction activity and further assessment

6.2.8 All but one of the potential contaminated land sites within Area 1 were assessed to have only low or very low risks to human health in the initial CSM (Table 4-6). Those with low or very low risks to human health included:

- CL001 Pig Farm (Berwick Down);
- CL003 Cherry Lodge Farm (formerly Homanton Farm);
- CL005 Pumping House;
- CL006 Possible Infilled Ground - former Covered Reservoir;
- CL010 Winterbourne Stoke Chalk Pit (1879 - 1926);
- CL012 Manor Farm;
- CL014 (unspecified Pit (1878 - 1926). Adjacent/ within Area of Fill (Demolition Rubble) (CL015));
- CL015 Area of Fill (Demolition Rubble); and
- CL098 Unknown Filled Ground (pit, quarry, etc).

6.2.9 Of the sites with only low or very low risks identified to human health the following observations are also relevant in relation to the nature of the planned works:

- CL010 and CL012 have no construction works planned on or within 50m;
- CL003 and CL098 have no construction planned directly on the sites with only archaeological investigations or utility diversions/trenching planned within 50m; and
- CL006 has no construction work planned on the site with only archaeological investigations and the B3083 realignment planned within 50m.

6.2.10 Based on Table 4-6 and Figure 2A, construction activity and ground disturbance is planned to take place on the following:

- CL001 – construction of PRoW;
- CL005 – archaeological AER;
- CL014 – archaeological SMR, embankment construction, fill landscaping;
- CL015 – archaeological SMR and fill landscaping; and
- CL080 – archaeological SMR and AMR, diversion of the existing pipeline (underground – trenching) and excavation and removal of the redundant pipeline, embankment construction.

6.2.11 CL080 (High Pressure Oil Pipeline) was the only site with potential higher risk identified in the initial CSM to human health due to adjacent residential properties.

6.2.12 Of those potential contaminated sites where construction activity and ground disturbance is planned, no ground investigation works have currently been undertaken within or adjacent to CL001, CL005, CL014 and CL015. It is understood that Esso will conduct their own ground

investigations with regard to CL080. The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

## 6.3 Area 2 Longbarrow Junction: risk summary and evaluation

6.3.1 A total of 44 soil samples were screened against EC within Area 2.

6.3.2 It is noted that soil samples were used in more than one scenario in the bulleted list below. Therefore, the number of samples within the bullet list cumulatively add up to 50 soil samples, where only 44 soil samples were physically taken in Area 2.

6.3.3 A total of 23 samples were obtained within the following potential contaminated sites:

- CL018 Former RAF Oatlands Hill (17 samples); and
- CL034 Pig Farm (Longbarrow Roundabout) (6 samples) and 1 within 7m of CL034).

6.3.4 A total of 10 samples were obtained from adjacent to the following potential contaminated sites:

- CL025 Former Larkhill Military Light Railway (Dismantled) (3 samples within 50m of CL025);
- CL028 Rollestone Camp (3 samples within 39m of CL028);
- CL033 Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range (3 samples within 65m of CL033); and
- CL034 Pig Farm (Longbarrow Roundabout) (1 sample within 7m of CL034).

6.3.5 A total of 17 samples were obtained from areas outside and within proximity of the potential contaminated sites but within the Scheme boundary.

6.3.6 The locations from where soil samples have been taken are presented in Figure 4B.

6.3.7 The human health GQRA for Area 2 is presented in Appendix E with the GQRA screening table for Area 2 presented in Appendix H.

6.3.8 The results of the GQRA screening (Appendix H) indicated that all soil samples analysed within Area 2 reported concentrations that were less than the adopted EC designed to be protective human health within a public open space (park) end-use scenario except for TP4_LRI (0.2m) which exceeded EC for a cumulative mixture of the carcinogenic PAH.

6.3.9 TP4_LRI is located within the current Longbarrow roundabout and has been included in both the assessment of the potential contaminated sites CL034 and CL025. The exceedance is likely to be related to the presence of re-worked soil containing bitumen, concrete and tarmac fragments and tarmac slabs, rather than contamination deriving from CL034 or CL025 as indicated in the exploratory hole record.

6.3.10 Given the magnitude of the exceedance and the absence of an indication of lateral migration of contamination, the exceedance is considered marginal and unlikely to pose a significant risk to human health.

6.3.11 No asbestos was detected in the 8 soil samples analysed for the presence of asbestos within Area 2. The samples included soils from CL018 and CL034.

6.3.12 Based on the results of the GQRA, and the available soil samples obtained, it is concluded that there is unlikely to be an unacceptable risk to human health from the soils sampled within Area 2.

### Potential contaminated sites, planned construction activity and further assessment

6.3.13 All but three of the potential contaminated land sites within Area 2 were assessed to have only low or very low risks to human health in the initial CSM (Table 4-7). Those with low or very low risks to human health included:

- CL016 Historic Barn and Above Ground Tank (1877 - 1961);
- CL020 Infilled and unspecified Pits and Ground Workings (1879 – 1957);
- CL025 Former Larkhill Military Light Railway (Dismantled);
- CL028 Rollestone Camp;
- CL033 Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range; and
- CL034 Pig Farm (Longbarrow Roundabout).

6.3.14 Of these sites the following observations are also relevant in relation to the nature of the planned works:

- CL033 has no construction works planned on or within 50m; and
- CL028 has no construction work planned on the site with archaeological mitigation and the realignment of Rollestone cross (highways works)/removal of redundant A360 only occurring within 50m.

6.3.15 Based on Table 4-7 and Figure 2B, the following main construction activities and ground disturbance are planned to take place on the remaining low to risk sites:

- CL016 – archaeological mitigation (SMR). Highway cutting associated with new Longbarrow Junction eastbound works adjacent to the north (within 50m);
- CL020 – archaeological mitigation (SMR) and SSEN cable installation trenching within CL020 boundary. Also, temporary A360 alignment/diversion to enable removal/construction of Longbarrow roundabout; and
- CL025 and CL034 have archaeological mitigation (AER) and new A303 alignment within cutting and removal of the existing A303 (under AMR)/conversion to PRoW.

6.3.16 The three potential contaminated sites assessed to have moderate/low risks to human health in the initial CSM (Table 4-7) are detailed below.

- CL018 Former RAF Oatlands Hill (1941 - 1946);
- CL021 Pump House (and associated former Covered Reservoir – potentially infilled); and
- CL023 Former RAF Lake Down (1917 - 1924).

6.3.17 The potential risks were associated with off-site residential and commercial users (CL018, CL23) and on-site commercial users (CL021).

6.3.18 Based on Table 4-7 and Figure 2B, construction activity and ground disturbance are planned to take place on CL018. This includes archaeological mitigation (AER, SMR and AMR) associated with the removal of the existing A303; The proposed construction activities on CL023 only include trenching for utilities installation within the highway. No construction works are planned within CL021 with only archaeological mitigation (SMR) and water pipeline installation (trenching) proposed within 50m of CL021.

6.3.19 No ground investigation works have currently been undertaken within or adjacent to CL016, CL020 (initial CSM low risk sites) and CL021 and CL023; (initial CSM moderate/low risk sites). The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

## 6.4 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: risk summary and evaluation

6.4.1 A total of 32 soil samples were screened against the adopted EC within Area 3. Of those, 11 samples were obtained within potential contaminated sites CL035 and CL036, 11 were obtained from areas outside of the identified potential contaminated sites but within the Scheme boundary, and a further 10 from outside of the potential contaminated sites and outside of the Scheme boundary.

6.4.2 The locations where soil samples have been undertaken are presented in Figure 4C.

6.4.3 The human health GQRA for Area 3 is presented in Appendix F with the GQRA screening table for Area 3 presented in Appendix H.

6.4.4 The results of the GQRA (Appendix H) indicated that all soil samples analysed within Area 3 reported concentrations that were less than their adopted EC designed to be protective of a public open space (park) end-use scenario.

6.4.5 No asbestos was detected within any of the 18 soils samples analysed for the presence of asbestos within Area 3. No samples were obtained from within CL035 or CL036. However, four samples were obtained from along the Scheme alignment or in its close proximity, where ground disturbance is most likely.

6.4.6 Based on the results of the GQRA, and the available soil samples obtained it is concluded that there is unlikely to be an unacceptable risk to human health from the soils sampled within Area 3.

### Potential contaminated sites, planned construction activity and further assessment

6.4.7 All but one of the potential contaminated land sites within Area 3 were assessed to have only low or very low risks to human health in the initial CSM (Table 4-8). These included:

- CL036 Former Stonehenge Pedigree Stock Farm (1924 - 1926);
- CL037 Former Sewage Outfall (disused 1924, removed 1970); and
- CL039 Disused Tip (1974).

6.4.8 Of these three sites CL037 and CL039 have no construction work planned on the site and no work planned within 50m.

6.4.9 Based on Table 4-8 and Figure 2C construction activity and ground disturbance is planned to take place on CL036. This includes the tunnel passing beneath the potential contaminated site with associated removal of the existing A303 under AMR and its conversion to a PRoW.

6.4.10 CL035 (Former RAF Stonehenge 1917-1921) was assessed to have moderate/low risks to human health in the initial CSM (Table 4-8). The risks were to off-site public open space receptors. The planned construction activity and ground disturbance beneath and at CL035 is the same as CL036.

6.4.11 No ground investigation works have currently been undertaken within or adjacent to CL037 and CL039, which were assessed as posing very low to low risks to human health and no construction works are planned on site or within 50m these sites. The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

## 6.5 Area 4 Eastern Tunnel Portal to East of Countess Junction: risk summary and evaluation

6.5.1 A total of 85 soil samples were screened against EC within Area 4. Of those, 13 were obtained within or in proximity of potential contaminated site CL050, CL051, CL041 and CL102. A total of 65 samples were obtained from areas outside of the potential contaminated sites but within the Scheme, and seven were obtained from areas outside of the potential contaminated sites and outside of the Scheme.

6.5.2 Made Ground was identified near to the existing Countess Roundabout. It contained occasional brick and tarmac and rare wood, glass, plastic, ceramic, and metal. Made Ground was also identified in the region of Amesbury Road and Allington Track and contained rare plastic. Hydrocarbon odours were noted at the following locations within Area 4:

- Ash and clinker with a strong hydrocarbon odour was noted locally in trial pit TP4 (TP4_CRI) (north-west part of the roundabout) between

0.6m and 0.8m bgl but no olfactory evidence of hydrocarbon impact was observed in the underlying Alluvium. This was attributed to a localised fuel spillage.

- A strong hydrocarbon odour was noted in CP72308 (south-west of the roundabout) between 0.15m and 0.3m bgl. No olfactory evidence of hydrocarbon impact was observed in the underlying Made Ground or Alluvium.
- A faint hydrocarbon odour and black staining was noted in WS72401 (west of the roundabout) between 0.15m and 0.3m bgl.

6.5.3 No asbestos was detected in the 46 soil samples analysed for the presence of asbestos within Area 4. The majority were obtained in areas along the proposed road alignment and in areas where ground disturbance during the works is likely to take place.

6.5.4 The results of the GQRA (Appendix H) indicated that all but four soil samples analysed within Area 4 reported concentrations that were less than the adopted EC designed to be protective of human health within a public open space (park) end-use.

6.5.5 Two of the samples that exceeded were located outside of potential contaminated sites but within the Scheme (TP2_CRI (0.5m bgl) and TP4_CRI (0.6 m bgl)) within Countess Roundabout. Delineation of these two areas (excavation of a further six trial pits excavated in proximity of locations TP2_CRI in 2020) did not detect any PAHs or olfactory/visual contamination. The PAH detected within TP4_CRI was understood to be due to a localised fuel spillage (as described in Section 6.5.2).

6.5.6 The two remaining the samples are located outside of potential contaminated sites and outside the Scheme (CP72308 (0.2 m bgl) and CP72308A (0.2 m bgl)). Evidence of localised hydrocarbon impact were noted in CP72308 as described in Section 6.5.2; in both locations, tarmacadam and tarmacadam fragments were reported in the logs up to a depth of 0.30m.

6.5.7 Identified exceedances in the four historical soil samples were generally marginal. Information reported in the logs suggests the contamination is localised and caused by the presence of tarmacadam or by a localised fuel spillage. Therefore, the exceedances are considered not to pose an unacceptable risk to human health.

### Potential contaminated sites, planned construction activity and further assessment

6.5.8 A total of five of the 21 potential contaminated land sites within Area 4 were assessed to have only low or very low risks to human health based on the initial CSM (Table 4-9). Those with low or very low risks to human health included:

- CL041 Former Quarry (1899 - 1961);
- CL045 Former Gas Works (1879 - 1901) and Ground Works (1961);
- CL050 Pumping Station;

- CL052 Former Gravel Pit (1926 – 1961); and
- CL063 Former Chalk Pit (1878 - 1961).

6.5.9 Of the sites with only low or very low risks identified to human health the following observations are also relevant in relation to the nature of the planned works:

- CL045 and CL052 have no construction works planned on or within 50m; and
- CL063 has no construction works planned on the site with only embankment and utilities works within 50m.

6.5.10 The remaining 16 potential contaminated sites within Area 4 were assessed to have a moderate/low risk to human health in the initial CSM. Of those, the following also do not have any construction works planned on the site or within 50m of the potential contaminated site boundary:

- CL056 MA Motors and recovery - Motor Garage;
- CL059 Industrial Repairs and Servicing (Reconditioning Gears);
- CL061 Electricity Sub Station;
- CL066 Depot and Warehousing (Minton Distribution Park);
- CL071 Coop Filling Station;
- CL081 Electricity Sub Station;
- CL082 Sewage Works;
- CL091 New Barn - current unknown industrial activity from aerial photography; and
- CL102 Motor Works.

6.5.11 It should be noted that should the northern substation be required (currently it is not), its construction would re-introduce potential contaminated sites CL056, CL081, CL082 and CL113.

6.5.12 Those potential contaminated sites with no planned construction work on the site but with planned works within 50m of the potential contaminated site include:

- CL051 Countess Filling Station - has no planned works on site but non-intrusive works associated with Countess compound and possible intrusive works associated with exit route from this compound within 50m;
- CL064 Precision Engineer (Engineering Services) has no planned works on the site and the installation of a power cable and the tie in of the new A303 into the existing within 50m;
- CL105 Former railway Buildings and Sidings near Countess Road has no planned works on the site and minor non-intrusive works (Countess Compound) within 50m; and
- CL113 Goods Yard has no works on the site but should the northern substation be required work for this would be within 50m.

6.5.13 Construction activity and ground disturbance is planned to take place on the following potential contaminated sites:

- CL041 low risk site - removal of the existing A303 and construction of a new highway within a cutting;
- CL050 low risk site - embankment works for the new flyover;
- CL055 moderate/low risk site - power cable installation possibly involving trenching techniques;
- CL057 moderate/low risk site - power cable installation possibly involving trenching techniques and tie in on the new A303 with the existing A303 and construction of an embankment; and
- CL058 moderate/low risk site - tie in on the new A303 with the existing A303 and construction of an embankment.

6.5.14 Ground investigation works have currently not been undertaken within or adjacent to the majority of the potential contaminated sites within Area 4. This is primarily due to the distance of the sites from the Scheme and/or the lack of proposed construction activity taking place within the east of the assessment area. Those potential contaminated sites that have ground investigation associated within them, or adjacent to them, are CL041, CL050, CL051, and CL102.

6.5.15 The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

# 7 Land Contamination Risk Assessment – Controlled Waters

## 7.1 General

7.1.1 A GQRA has been completed on the basis of the findings of the ground investigations and the chemical analysis undertaken, supplemental data from the groundwater monitoring programme, along with the CSM established in Section 4. The GQRA aims to quantify the potential risks identified in relation to the potential sources and linkages previously summarised in the initial CSM through the screening of sample data. Presentation of this GQRA is consistent with the staged approach described in LCRM [4].

7.1.2 Soil leachate and groundwater samples were taken during the ground investigations to provide an understanding of the baseline soil quality along the Scheme, and to provide data where the Scheme also crossed some of the key potential contaminated land sites described in Section 4.

7.1.3 A total of 58 soil leachate and 19 groundwater samples were recovered across the various ground investigations and these were submitted for laboratory analysis for the suite of determinands presented in Tables 5.5 to 5.8.

7.1.4 In addition, chemical analysis results for 92 samples collected from 13 wells between 2018 and 2021 during the groundwater monitoring programme [1] were also reviewed during the assessment to supplement data collected during the ground investigations. The analysis undertaken on these samples is presented within Table 5-9.

7.1.5 To provide some context to the measured concentrations within the soils and groundwater sampled, a GQRA has been undertaken as an initial conservative screen based on a set of default assumptions about land use, soil types and critical receptor exposure. The GQRA methodology and approach is presented in more detail in Appendix C.

7.1.6 An assessment has been undertaken for each of the four assessment areas. The soil leachate and groundwater results were screened against generic EC that are considered to be protective of controlled waters, including both surface water and groundwater. The results of the assessments are presented within Appendix D to G, with the full screening tables presented in Appendix H.

7.1.7 As soil leachate and groundwater data are available across the Scheme and within each assessment area as a whole, GQRA has not considered theoretical partitioning from soils to groundwater, as the soil leachate and groundwater data provides a more accurate reflection of ground conditions.

7.1.8 Whilst the River Till and River Avon are located within assessment Area 1 and 4 respectively, the River Till is also a potential receptor for assessment Area 2 and the River Avon is potential receptor for Areas 2 and 3, via an intermediate groundwater migratory pathway. Although these areas are at considerable distance from the rivers, the Environment Agency requested that “all potential controlled water receptors are considered regardless of

distance and not just those within 50m of the potential contaminated site". The GQRA has, therefore, conservatively considered potential risks to surface water receptors for all four areas.

7.1.9 Where a potential risk is identified at the GQRA stage, DQRA is then normally undertaken using more site-specific information, or mitigation is developed and implemented to reduce the level of risk to acceptable levels.

## 7.2 Area 1 Western Limit to Winterbourne Stoke: risk summary and evaluation

7.2.1 The key surface water receptor within Area 1 is the River Till, which flows southwards through Winterbourne Stoke. There are no licensed surface water abstractions identified within 1km of the Scheme in Area 1.

7.2.2 The groundwater in the Chalk aquifer discharges as baseflow to the River. Till with inferred flow directions within Area 1 trending south westerly or south easterly towards the river.

7.2.3 The relevant potential groundwater receptors in Area 1 include the following groundwater bodies:

- Chalk Principal aquifer, present across the area and considered the critical groundwater receptor.
- Superficial Secondary A aquifer – Alluvium, River Terrace Deposits within the valley of the River Till and localised Head Deposits (where these consist of gravel).
- Secondary (undifferentiated) aquifer – localised Head Deposits (comprising clay, silt, sand, and gravel).

7.2.4 Four licensed groundwater abstractions from the Chalk were identified within 1km of the Scheme in Area 1. Of those four, only two were considered to be at potential risk from the potential contaminated sites. These are presented below. The remaining abstractions were located up-hydraulic gradient of the potential contaminated sites in Area 1 and thus not considered to be at risk from these sites.

- Scotland Lodge, Winterbourne Stoke - located approximately 1.5km south east and down-hydraulic gradient of CL003 and CL098 (both of which are located adjacent to, but outside of the Scheme area). Given the distance, the risk to this abstraction from these sites is considered low.
- Manor Farm - Well 4 was located within potential contaminated site CL012.

7.2.5 A total of 11 soil leachate samples were collected from Area 1 during the ground investigations. Of the 11 soil leachate samples, 10 were obtained outside potential contaminated sites within Area 1 but within the Scheme boundary, whilst one sample was obtained outside the potential contaminated sites and also outside the Scheme boundary.

7.2.6 Two groundwater samples were obtained outside of the potential contaminated sites within Area 1 but within the Scheme boundary. In addition, 10 samples were collected from two wells between 2018 and 2021 during the groundwater monitoring programme. These included samples

taken in close proximity but outside of the potential contaminated sites CL003, CL098 and CL080.

### Surface water

7.2.7 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 1 indicate that the risk to the River Till is considered to be low and thus acceptable.

7.2.8 Whilst fluoranthene was detected in soil at levels that could pose a risk to surface water across the Scheme in Area 1 (but outside of specific potential contaminated sites) the absence in groundwater samples, and only limited soil leachate exceedances, suggest that its presence is not widespread and levels in excess of EC are localised. Additionally, the soil leachate samples with exceedances were from locations over 700m from the River Till in the direction of groundwater flow.

7.2.9 The iron, copper, nickel, and zinc concentrations detected in soil leachate or groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area.

### Groundwater

7.2.10 The phosphorus and iron concentrations detected in soil leachate or groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to groundwater receptors from these determinands from soils in Area 1 of the Scheme is considered to be low.

7.2.11 Whilst nitrate concentrations in ground investigation groundwater samples were marginally higher than the maximum value in the BGS data set by approximately one magnitude, these determinands are attributed to general agricultural land-use across the Scheme.

### Potential contaminated sites, planned construction activity and further assessment

7.2.12 All but two of the potential contaminated land sites within Area 1 were assessed to have only low or very low risks to controlled waters in the initial CSM (Table 4-6).

7.2.13 Those with an initial CSM rating of moderate/low were as follows:

- CL080 High Pressure Oil Pipeline - groundwater risk.

7.2.14 The following potential contaminated sites within Area 1 have no construction works planned on the site:

- CL010 and CL012 have no construction works planned on or within 50m;
- CL003, CL098 have no construction planned directly on the sites with only archaeological investigations or utility diversions/trenching planned within 50m; and

- CL006 has no construction work planned on the site with only archaeological investigations and the B3083 realignment planned within 50m.

7.2.15 Based on Table 4-6 and Figure 2A construction activity and ground disturbance is planned to take place on the following:

- CL001 – construction of PRoW;
- CL005 – archaeological AER;
- CL014 – archaeological SMR, embankment construction, fill landscaping;
- CL015 – archaeological SMR and fill landscaping; and
- CL080 – archaeological SMR and AMR, diversion of the existing pipeline (underground – trenching) and excavation and removal of the redundant pipeline, embankment construction.

7.2.16 Of those potential contaminated sites where construction activity and ground disturbance are planned, no ground investigation works have been undertaken to date within or adjacent the CL001, CL005, CL014 and CL015. It is understood that Esso will conduct their own ground investigations with regard to CL080.

7.2.17 The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

7.2.18 It should be noted that abstraction well, Manor Farm - Well 4 is located within potential contaminated site CL012 and that CL012 is a pumping house. This is located outside the Scheme boundary and no construction activity is planned within this site or within 50m of the site boundary. No ground investigation has been undertaken within or adjacent to the site boundary. No data are also available down-hydraulic gradient of this potential contaminated site. It is also assumed that Manor Farm Well 4 (abstraction) will draw in water which will prevent contaminant migration.

## 7.3 Area 2 Longbarrow Junction: risk summary and evaluation

7.3.1 No surface water receptors have been identified within the Area 2 boundary. However, the River Avon and River Till have been assessed as potential receptors, with the River Till being the critical surface water receptor. These rivers have been assessed because there is a groundwater flow divide between the River Avon and the River Till present within Area 2 and there is a potential migration via an intermediate groundwater pathway and groundwater discharge as baseflow into these two rivers. The River Till is considered to be the critical surface receptor as it is the closest to a potential contaminated site (1.2km from CL018) and 4km for the River Avon. It is over 950m to the River Till from Area 2 along the inferred migration flow pathway.

7.3.2 Groundwater flow at high groundwater levels converge on the River Till in the west of the Scheme area and towards the River Avon in the east. The inferred flow is towards the south west in the western portion of Area 2 and the south east in the eastern part. At low groundwater levels flow across Area 2 is inferred to be to the south to south-east towards the River Avon only.

7.3.3 No licensed surface water abstractions were identified within 1km of the Scheme in Area 2.

7.3.4 The relevant groundwater receptors in Area 2 include the following groundwater bodies:

- Chalk Principal aquifer, present across the area and considered the critical groundwater receptor.
- Superficial Secondary A aquifer - localised Head Deposits (where these consist of gravel).
- Secondary (undifferentiated) aquifer - Head Deposits (comprising clay, silt, sand, and gravel)).

7.3.5 Four licensed groundwater abstractions from the Chalk were identified within 1km of the Scheme in Area 2. All are located either down-inferred hydraulic gradient of the Scheme boundary or potential contaminated site or within a potential contaminated site. As follows:

- Oatlands Hill, Winterbourne Stoke - located within CL018, but approximately 520m south west and down-inferred hydraulic gradient of the Scheme boundary;
- Airman's Corner - boreholes A and B, located approximately 1.7km south and down-inferred hydraulic gradient of CL028 and CL033 (both of which are located adjacent to but outside of the Scheme area);
- Druid's Lodge - located approximately 460m south west and down-inferred hydraulic gradient of CL023 (outside the Scheme boundary).
- Manor Farm – Well 1 located approximately 820m south and down-inferred hydraulic gradient of CL028 and 840m from CL033 (both of which are located adjacent to but outside of the Scheme). Well 3 was located within potential contaminated site CL021.

7.3.6 A total of eight soil leachate samples were collected from Area 2 during the ground investigations. Of the eight soil leachate samples, two were obtained outside potential contaminated sites within Area 2 but within the Scheme boundary. The remaining six were collected from the following sites:

- CL034 - Pig Farm (Longbarrow Roundabout) - 1 sample within 7m of boundary of CL034; and
- CL018 - Former RAF Oatlands Hill - 5 soil leachate samples.

7.3.7 The two groundwater samples were both obtained from within CL018. In addition, 12 samples were collected from three wells between 2018 and 2021 during the groundwater monitoring programme. These include samples taken within potential contaminated site CL021, in close proximity to CL025 and down-inferred hydraulic gradient of CL028 and CL033. These are shown on Figure 4B.

### Surface Water

7.3.8 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 2 indicate that the risk to the River Till is considered to be low and thus acceptable. As the potential distance to the River Till in the inferred direction of groundwater flow is

1.2km or greater, the detected concentrations of PAHs, metals and inorganics which exceeded the EC protective of surface water are not considered to pose an unacceptable risk to surface water in this receptor.

7.3.9 The copper, iron, lead, nickel, and zinc detected in soils and groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are thus considered to reflect background conditions across the area.

7.3.10 Localised elevated exceedances of zinc were detected in groundwater within CL021. Concentrations were up to an order of magnitude above the BGS background data for the Chalk groundwater at this location. However, as this was the only determinand to exceed EC at this location, noting the absence of works planned at this site that could result in further disturbance of soils, and based on the potential distance to the River Till in the inferred direction of groundwater flow (over 2km) the detected concentrations are not considered to pose an unacceptable risk to surface water at this receptor.

7.3.11 Localised exceedances of the EC for cyanide were found in soil, but detected only marginally above the EC and so are not considered to indicate an unacceptable risk to surface water.

7.3.12 The PAH compounds detected in soils, and some groundwater samples, which exceed the EC protective of surface water may be attributed to localised occurrences in soils related to former site use (at CL018 and CL034) but also the existing A303 and Longbarrow roundabout road construction and more general conditions across Area 2.

7.3.13 However, given the intrusive MW proposed across CL018 and CL034, measures defined in the OEMP should be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific re-use criteria should be calculated taking account of the potential migratory distance to the river.

### Groundwater

7.3.14 The phosphorus, iron and manganese concentrations detected in soil leachates and groundwater across Area 2 are generally within the range of BGS background data and are consistent with Chalk groundwater across the Scheme area. Based on this, they are not considered to pose an unacceptable risk to groundwater.

7.3.15 Although phosphorus is not considered to pose an unacceptable risk to groundwater within Area 2, localised elevated concentrations of phosphorus (4 times the maximum BGS concentration for the Chalk) was noted within the groundwater at groundwater well W1, located within CL034. However, the filtered (dissolved) phosphorus concentrations (rather than the total phosphorous) in the same samples were all within the range reported by the BGS.

7.3.16 Given the elevated phosphorus levels detected in groundwater at CL034 and as the current land use (farming) is a potential source and limited leachate data has been obtained, the level of risk posed from phosphorus in soil at site CL034 to groundwater is currently uncertain. Further assessment

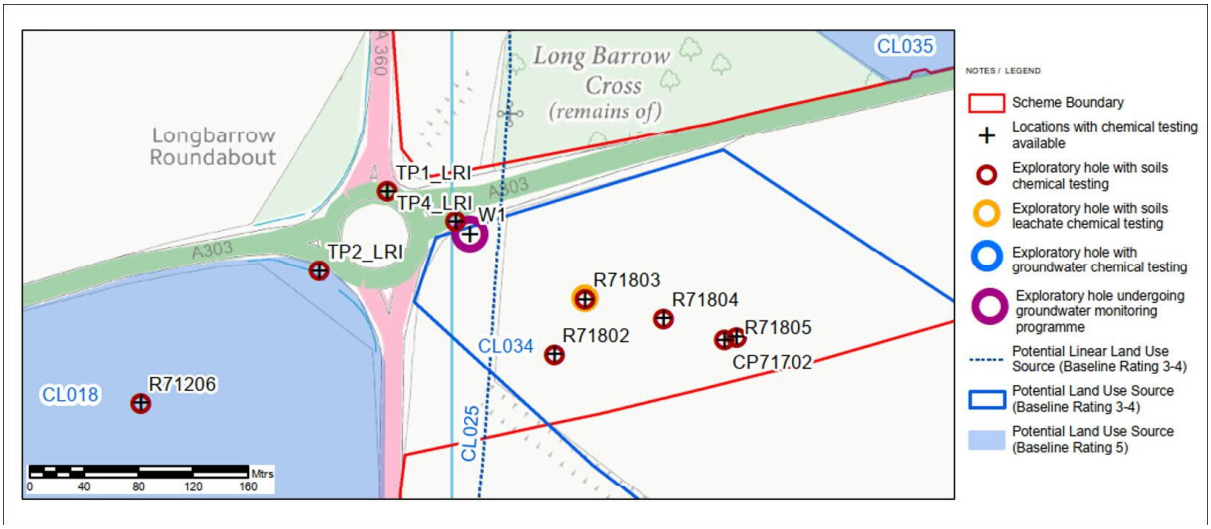
of this risk may be necessary either in advance of the works or through development of criteria and a procedure for testing of soils excavated in this area during the works, prior to re-use. The collection of additional soil leachate samples may be required to refine the potential risk to groundwater

7.3.17 Whilst naphthalene and phenanthrene were detected in groundwater at CP71302 which is located within CL018, they were not detected in soil leachate at site CL018. Therefore, could reflect background conditions across Area 2, but may also be attributed to activities associated with the Former RAF Oatlands Hill. The exceedances of EC were however marginal. The detected levels of these determinands in soil at this site are not considered to pose an unacceptable risk to groundwater.

7.3.18 The nitrate and nitrite concentrations detected in groundwater are attributed to general agricultural land-use across the Scheme area, rather than from soils at specific potential contaminated sites.

7.3.19 Figure 7-1 below shows the location of the groundwater sampling borehole within CL034.

**Figure 7-1 Area 2 Longbarrow Junction: location of groundwater sampling borehole within CL034**




## Potential contaminated sites, planned construction activity and further assessment

7.3.20 The following potential contaminated sites within Area 2 have no construction works planned on the site:

- CL021 has no construction works planned on the site with only archaeological mitigation (SMR) and water pipeline installation (trenching) proposed within 50m;
- CL028 has no construction work planned on the site with archaeological mitigation and the realignment of Rollestone cross (highways works)/removal of redundant A360 within 50m; and
- CL033 has no construction works planned on or within 50m.

7.3.21 Based on Table 4-7 and Figure 2B, the following main construction activities and ground disturbance are planned to take place on the following:

- CL016 – archaeological mitigation (SMR). Highway cutting associated with new Longbarrow Junction eastbound works adjacent to the north (within 50m);
- CL018 – this includes archaeological mitigation (AER, SMR and AMR) associated with the removal of the existing A303;
- CL020 – archaeological mitigation (SMR) and SSEN cable installation trenching within boundary. Also, temporary A360 alignment/diversion to enable removal/construction of Longbarrow roundabout;
- CL023 includes trenching for utilities installation within the highway; and
- CL025 and CL034 have archaeological mitigation (AER) and new A303 alignment within cutting and removal of the existing A303 (under AMR)/conversion to PRoW.

7.3.22 No ground investigation works have currently been undertaken within or adjacent to CL016, CL020 (initial CSM low risk sites) and CL021 and CL023; (initial CSM moderate/low risk sites). The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

## 7.4 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: risk summary and evaluation

7.4.1 Whilst no surface water receptors have been identified in Area 3, risks to the River Avon (located within Area 4) have been assessed based on migration via in intermediate groundwater pathway. The inferred groundwater flow in the Chalk aquifer in Area 3 is towards the River Avon and the groundwater discharges as baseflow to the river, although the input of groundwater may be reduced or reversed during periods of low groundwater levels.

7.4.2 The River Avon is over 450m along the inferred flow path from the Scheme boundary in Area 3 and is 2.2km from the closest potential contaminated site, which is CL039.

7.4.3 Whilst no springs were identified within 1km of the Scheme within the boundaries of Area 3, those at West Amesbury (including Gallows Hill) inside Area 4 are located down-hydraulic gradient. These springs are 680m to 800m in the inferred direction of groundwater flow from the Scheme boundary in Area 3. However, no potential contaminated sites in Area 3 are located up-gradient of the springs.

7.4.4 The identified relevant groundwater receptors in Area 3 include the following:

- Chalk Principal aquifer, present across the area and considered the critical groundwater receptor.
- Superficial Secondary A aquifer - localised Head Deposits (where these consist of gravel).
- Secondary (undifferentiated) aquifer - Head Deposits (comprising clay, silt, sand, and gravel).

7.4.5 A total of 24 soil leachate samples and 11 groundwater samples were collected from Area 3 during the previous ground investigations. None of the leachate samples were obtained within the potential contaminated sites present in Area 3. Twenty samples were obtained outside the potential contaminated sites within Area 3 but within the Scheme and the remaining four were obtained outside contaminated land areas and outside the Scheme boundary.

7.4.6 Of the 11 groundwater samples, seven samples were obtained outside potential contaminated sites within Area 3 but within the Scheme boundary and one was obtained outside contaminated land and outside of the Scheme boundary. The remainder were collected from within the following potential contaminated sites:

- one groundwater sample was obtained within CL035; and
- two groundwater samples were obtained within CL035 and CL036.

7.4.7 In addition, 46 groundwater samples collected from five wells between 2018 and 2021 during the groundwater monitoring programme were also reviewed during the assessment.

### Surface water

7.4.8 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites and elsewhere across the Scheme in Area 3 indicates that the risk to the River Avon is considered to be low and thus acceptable. The potential distance to the River Avon in the inferred direction of groundwater flow is 2.2km from the potential contaminated sites (CL035 and CL036). Therefore, the detected concentrations of PAH, metals and inorganics which exceeded the EC protective of surface water within these locations are not considered to pose an unacceptable risk to surface water at this receptor

7.4.9 Generally, the PAH (fluoranthene), metals and inorganics concentrations detected within Area 3 are considered to reflect background groundwater conditions.

7.4.10 Elevated concentrations of PAH (fluoranthene) detected within the groundwater within CL035 is considered a localised exceedance. Fluoranthene was not detected within the groundwater monitoring programme sampling wells within Area 3. However, it should be noted that soil leachate data has not been obtained from the soils within CL035.

7.4.11 The copper and zinc exceedances within groundwater within CL035 are noted to be within BGS background range. Although nickel was detected marginally above BGS background range, the level of exceedance was generally low.

7.4.12 Within the remainder of locations outside of the potential contaminated sites within Area 3, copper and nickel exceedances within the soil leachates and nickel, zinc and iron in groundwater were found to be in the BGS background range for the Chalk aquifer. Copper and lead were detected to be one order of magnitude greater that the BGS range within the groundwater.

7.4.13 There is no BGS background data for cyanide, which also locally exceeded the EC. However, this determinand was only detected in groundwater in a sample from 2001 and then one sample from the groundwater monitoring programme. The other ground investigation and groundwater monitoring programme samples did not contain cyanide at concentrations greater than detection limit within the groundwater.

### Groundwater

7.4.14 The concentrations for phosphorous, manganese and nitrate detected within the groundwater within Area 3, although exceeding the EC protective of groundwater, are generally noted to be within the BGS background range for the Chalk aquifer and are consistent with the Chalk groundwater concentrations across the Scheme area.

7.4.15 Although phosphorous was detected at concentrations marginally greater than the BGS background range, comparison of the filtered dissolved phosphorous concentrations indicated that these data reflected concentrations that were less than the background concentrations for the Chalk aquifer. Similarly, iron also marginally exceeded within the ground investigation locations, but as were detected within the BGS range within the groundwater monitoring programme locations, is still indicative of background concentrations and diffuse sources across the Scheme and not attributable to a particular potential contaminated site source.

7.4.16 The nitrate concentrations detected within the groundwater monitoring programme locations relevant in Area 3 were noted to be isolated and only marginal exceedances against the EC. This is likely to be reflective of the general agricultural use of the area.

7.4.17 The soil leachate exceedances identified for phosphorous were noted to be within the BGS background concentration range for the Chalk aquifer. Nitrite was only detected as marginal exceedances in soil locations outside of the Scheme boundary and only marginally within 250m of the Scheme boundary.

7.4.18 Isolated groundwater exceedances of cyanide and nitrite were also detected within groundwater (groundwater monitoring programme locations). However, given the marginal concentration exceedances detected and isolated occurrences, these are not considered to pose an unacceptable risk to groundwater receptors.

7.4.19 Based on the above, CL035 and CL036 are not considered to pose an unacceptable risk to groundwater. However, as CL036 is the site of a former farm, nitrite and phosphorous have been detected within the groundwater within this site (which can be associated with agricultural use) and no soil leachate data have been obtained from this location, it is recommended that testing of soils is undertaken from the area before re-use and the assessment is based on site-specific criteria.

### Potential contaminated sites, planned construction activity and further assessment

7.4.20 All the potential contaminated land sites within Area 3 were assessed to have only low or very low risks to surface water or groundwater in the initial CSM (Table 4-8). Those included:

- CL035 Former RAF Stonehenge (1917 - 1921);
- CL036 Former Stonehenge Pedigree Stock Farm (1924 - 1926);
- CL037 Former Sewage Outfall (disused 1924, removed 1970); and
- CL039 Disused Tip (1974).

7.4.21 Of these three sites CL037 and CL039 have no construction work planned on the site and no work planned within 50m.

7.4.22 Based on Table 4-8 and Figure 2C construction activity and ground disturbance is planned to take place on CL035 and CL036. This includes the tunnel passing beneath the potential contaminated sites with associated removal of the existing A303 under AMR and its conversion to a PRoW.

7.4.23 No ground investigation works have currently been undertaken within or adjacent to CL037 and CL039 but as discussed above, no construction works are planned on site, or within 50m of these sites. Therefore, further intrusive investigation of these areas is considered to be unnecessary. Soil leachate data were not obtained for CL035 and CL036. The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

## 7.5 Area 4 Eastern Tunnel Portal to East of Countess Junction: risk summary and evaluation

7.5.1 The potential surface water receptor in Area 4 is the River Avon, which flows southwards through Amesbury. Groundwater in the Chalk aquifer flows in a generally southerly direction with flow at high groundwater levels converging on the River Avon in the east of the Scheme area. The groundwater discharges as baseflow to the river. The risk to the river from the potential contaminated sites is via this intermediate groundwater pathway.

7.5.2 Springs were identified within 1km of the Scheme boundary in Area 4 at West Amesbury (including that at Gallows Hill) and at Amesbury Abbey. Those at West Amesbury are over 700m from the Scheme boundary in Area 4, based on the inferred direction of groundwater flow (no individual contaminated sites are located in this part of the Scheme). The spring at Amesbury Abbey is located 130m from the Scheme boundary and potential contaminated site CL041.

7.5.3 One licensed surface water abstraction was identified within 1km of the Scheme in Area 4. This is located approximately 750m to the south of the Scheme boundary in West Amesbury and is associated with the abstraction of surface water from the River Avon for wetland support.

7.5.4 The identified groundwater receptors in Area 4 include the following groundwater bodies:

- Chalk Principal aquifer, present across the area and considered the critical groundwater receptor.
- Superficial Secondary A aquifer - Alluvium, River Terrace Deposits, and localised Head Deposits (where these consist of gravel).
- Secondary (undifferentiated) aquifer - Head Deposits (comprising clay, silt, sand, and gravel).

7.5.5 Whilst three SPZ are located within 1km of the Scheme in Area 4, these are located up or across the inferred groundwater flow direction from the Scheme boundary and so are not considered to be at risk from potential contaminated sites in Area 4.

7.5.6 Of the 15 soil leachate samples, 11 were obtained outside the potential contaminated sites within Area 4 but within the Scheme boundary, whilst two samples were obtained outside the potential contaminated sites and also outside the Scheme boundary. The remainder were obtained within the following areas:

- one sample was obtained within CL041; and
- one sample was obtained 48m east of CL051.

7.5.7 Of the four groundwater samples, one was obtained outside the potential contaminated sites within Area 4 but within the Scheme boundary, whilst two samples were obtained outside the potential contaminated sites and also outside the Scheme boundary. The remainder was obtained approximately 65m from CL051.

7.5.8 In addition, 24 samples collected from three wells between 2018 and 2021 during the groundwater monitoring programme were also reviewed during the assessment. The analysis undertaken on these samples is presented within Table 5-9, Section 5 within the main text of the report. These include samples taken down-inferred hydraulic gradient of site CL041.

### Surface water

7.5.9 PAHs were detected in soil leachate at concentrations that could pose a risk to the River Avon at locations immediately north (STEPS1, STPES2, STPES5) and south (CP72308) of the Countess Roundabout. Groundwater sampled from CP72308A also contained the same PAHs at elevated levels in excess of EC. This well is adjacent to CP72308 and potentially down-hydraulic gradient of STPES1, STPES2 and STPES5. CP72308 and CP72308A are approximately 25m from the river in the inferred direction of groundwater flow. Given the level of exceedance, occurrence in groundwater and proximity of the river, leaching of PAHs from soils in this area could pose an unacceptable risk to the River Avon. These PAHs are interpreted to result from localised occurrence in soils at these locations, with evidence of bitumen/tarmacadam and hydrocarbon odours noted in shallow soils (<1m depth) at CP72308, CP72308A, STPES1, STPES2 and TP4_CRI.

7.5.10 The risk to the river from leaching of PAHs from shallow soils north and south of Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during

the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated, taking account of the potential migratory distance to the river, to assess samples collected during further delineation or re-use testing.

7.5.11 PAHs were not detected at elevated levels in other samples from Area 4, with the exception of fluoranthene and an isolated occurrence of benzo(a)pyrene at WS72401. Fluoranthene is considered to reflect background conditions across the area given this more widespread occurrence. Neither compound was detected in the groundwater samples assessed, other than at CP72308A. This suggests they are not leaching from soils widely and the risk to the river from PAHs leaching from the soils tested outside of those around Countess Roundabout is low.

7.5.12 The metals detected at levels above EC in the samples tested across the majority of Area 4 are considered to reflect background conditions across the Scheme and not to indicate an unacceptable risk to the River Avon.

7.5.13 The exception are soils at site CL041. The risk posed by copper in the soils at CL041 to the river is uncertain. Whilst the soil leachate data from this site, and distance to the river, indicate a low risk to surface water from the soils tested in CL041, the groundwater sampled down-gradient sometimes contained metals above the EC, primarily at WS02. However, there was variability in detected concentrations, both between neighbouring monitoring wells WS02 and AS and within well WS02. Also, given the occurrence of copper in groundwater elsewhere in the Scheme area, it may not specifically come from a source at CL041.

7.5.14 Given this uncertainty and the intrusive MW proposed across CL041, measures should be implemented to manage potentially contaminated soil if encountered during the works at this site and for testing of soil before re-use. Site-specific assessment criteria should be calculated that take account of the potential migratory distance to the river.

### Groundwater

7.5.15 PAHs were detected in soil leachate at locations immediately north of the Countess Roundabout (STEPS1, STPES2 and STPES5) at concentrations that could pose a risk to groundwater. They were also detected above the EC, along with aromatic petroleum hydrocarbons, at (CP72308) south of the roundabout. Groundwater sampled from CP72308A, adjacent to CP72308 and potentially down-hydraulic gradient of STEPS1, STPES2 and STPES5, also contained some of these PAHs at elevated levels in excess of EC. Given the level of exceedance, and presence in groundwater, leaching of PAHs from soils in this area could pose an unacceptable risk to groundwater. These PAHs and hydrocarbons are, however, interpreted to result from localised occurrence in soils at these locations, with evidence of bitumen/tarmacadam and hydrocarbon odours noted in shallow soils (<1m depth) at CP72308, CP72308A, STPES1, STPES2 and TP4_CRI.

7.5.16 The risk to groundwater from leaching of PAHs and aromatic hydrocarbons from soils around Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during

the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated to assess samples collected during further delineation or re-use testing.

7.5.17 The metals detected at levels above EC in Area 4 are considered to reflect background conditions across the Scheme and the do not indicate an unacceptable risk to groundwater from the locations sampled.

### Potential contaminated sites, planned construction activity and further assessment

7.5.18 Only a total of four of the potential contaminated land sites within Area 4 were assessed to have only low or very low risks to controlled waters based on the initial CSM (Table 4-9). This is primarily due to the majority of potential contaminated land sites within Area 4 being industrial uses. Those with low or very low risks to controlled waters included:

- CL041 Former Quarry (1899 - 1961);
- CL050 Pumping Station;
- CL052 Former Gravel Pit (1926 – 1961); and
- CL063 Former Chalk Pit (1878 - 1961).

7.5.19 Of the sites with only low or very low risks identified to controlled waters the following observations are also relevant in relation to the nature of the planned works:

- CL052 have no construction works planned on or within 50m; and
- CL063 has no construction works planned on the site with only embankment and utilities works within 50m.

7.5.20 The remaining 17 potential contaminated sites within Area 4 were assessed to have a moderate/low risk to controlled waters in the initial CSM. Of those, the following do not have any construction works planned on the site or works planned within 50m of the potential contaminated site boundary:

- CL045 Former Gas Works (1879 - 1901) and Ground Works (1961);
- CL056 MA Motors and recovery - Motor Garage;
- CL059 Industrial Repairs and Servicing (Reconditioning Gears);
- CL061 Electricity Sub Station;
- CL066 Depot and Warehousing (Minton Distribution Park);
- CL071 Coop Filling Station;
- CL081 Electricity Sub Station;
- CL082 Sewage Works;
- CL091 New Barn - current unknown industrial activity from aerial photography; and
- CL102 Motor Works.

7.5.21 It should be noted that should the northern substation be required (currently it is not), potential contaminated sites CL056, CL081, CL082 and CL113 could be affected by ground disturbance.

7.5.22 Those potential contaminated sites with no planned construction work on the site but with planned works within 50m of the potential contaminated site include:

- CL051 Countess Filling Station - has no planned works on site but non-intrusive works associated with Countess compound and possible intrusive works associated with exit route from this compound within 50m;
- CL064 Precision Engineer (Engineering Services) has no planned works on the site and the installation of a power cable and the tie in of the new A303 into the existing within 50m;
- CL105 Former railway Buildings and Sidings near Countess Road has no planned works on the site and minor non-intrusive works (Countess Compound) within 50m; and
- CL113 Goods Yard has no works on the site but should the northern substation be required work for this would be within 50m.

7.5.23 Construction activity and ground disturbance is planned to take place on the following potential contaminated sites:

- CL041 low risk site - removal of the existing A303 and construction of a new highway within a cutting;
- CL050 low risk site - embankment works for the new flyover;
- CL055 moderate/low risk site - power cable installation possibly involving trenching techniques;
- CL057 moderate/low risk site - power cable installation possibly involving trenching techniques and tie in on the new A303 with the existing A303 and construction of an embankment; and
- CL058 moderate/low risk site - tie in on the new A303 with the existing A303 and construction of an embankment.

7.5.24 Ground investigation works have currently not been undertaken within or adjacent to the majority of the potential contaminated sites within Area 4. This is primarily due to the distance of the sites from the Scheme boundary and or the lack of proposed construction activity taking place within the east of the assessment area. Those potential contaminated sites that have ground investigation associated within them or adjacent are CL041, CL050, CL051, and CL102.

7.5.25 The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

# 8 Summary of Assessment & Recommended Further Works

8.1.1 Human health and controlled waters GQRA have been undertaken for the site based on the soils, soil leachate and groundwater samples obtained to date for the Scheme from eleven phases of ground investigation completed between 2001 and 2021. This includes groundwater samples obtained from long term groundwater monitoring that has been undertaken for the Scheme.

8.1.2 The following tables (8-1 to 8-4) summarise the findings of the Stage 1, Tier 2 land contamination risk assessment, together with providing details of any further works which may be required to meet the OEMP requirements. The summary tables below detail, where applicable, any unacceptable residual risks with regards to the potential contaminated sites identified and the tables detail any further assessment and/or appropriate mitigation (remediation) which may be required, in line with OEMP requirements. The mitigation measures identified by this report will be included in the relevant Construction Environmental Management Plans (CEMPs) and developed as necessary in consultation with the Environment Agency and Wiltshire Council.

8.1.3 The summary tables (8-1 to 8-4) have been compiled using information contained within Tables 4-6 to 4-9 within the main text above and tables D-1 to D-4, E-1 to E-4, F-1 to F-4 and G-1 to G-4 within GQRA appendices D to G.

## 8.1 Area 1 Western Limit to Winterbourne Stoke

**Table 8-1 Area 1 Western Limits to Winterbourne Stoke: summary of assessment & further works**

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available and undertaken | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
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| **Locations where GQRA undertaken** | | | | | | | | |
| CL003 - Cherry Lodge Farm (formerly Homanton Farm) | 3 | Very low to low risks. | 870m from the proposed road alignment. | No works proposed within CL003 (as it is located outside of the Scheme boundary). Closest works are approximately 25m east of Cherry Lodge: Preliminary Works (PW) – Archaeological investigation (Strip, Map and Record (SMR)). Scottish and Southern Electricity Networks (SSEN) cable diversion (trenching). | No, due to very low to low baseline risk and distance from the proposed road alignment.<br><br>However, one groundwater monitoring programme location located immediately down-inferred hydraulic gradient of the site | Surface water: Risk to the River Till is considered to be low, thus acceptable.<br><br>Groundwater: Risk to groundwater considered to be low, thus acceptable. | No soil data obtained therefore no GQRA undertaken for human health. Risk to human health is discussed later within this table.<br><br>The iron, zinc and phosphorus concentrations detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the assessment area.<br><br>No proposed construction activity is planned to take place within CL003 with only minor works (archaeological investigation and trenching) taking place within 50m. CL003 was defined as having low and very low risks in the ES. No further ground investigation or assessment is deemed to be required. | No further assessment or ground investigation is considered to be required<br><br>A watching brief by a suitability qualified geo-environmental professional is recommended during the planned construction activity within 50m of CL003. This will enable assessment to be undertaken should any unforeseen contamination be encountered that may be attributable to this adjacent source. |
| CL080 - High Pressure Esso Oil Pipeline | 4 | Moderate/low to moderate risks. | Crosses the proposed road alignment. | PW – Archaeological mitigation (SMR (for the new alignment) and AMR (for excavation/removal of the redundant pipeline)). Diversion of the existing pipeline (underground – trenching) immediately east of its current location. Excavation and removal of the redundant pipeline.<br><br>MW – Eastern embankment of the Till viaduct to cross southern section of the pipeline. Woodland planting on the | Yes, although not directly adjacent as a subsurface pipeline so standoff had to be respected and understood. Esso were to conduct their own ground investigations.<br><br>However, two groundwater monitoring programme locations were within 250m of the pipeline. | Human Health N/A Esso to conduct own investigation<br><br>Surface water: Risk to the River Till is considered to be low, thus acceptable. | It is understood that Esso will be undertaking their own ground investigation with regard to CL080.<br><br>Based on the assessment undertaken on the soils within Area 1, which includes locations in the vicinity of CL080, no determinands were detected greater than the EC for human health.<br><br>Determinands associated with an oil pipeline (petroleum hydrocarbons, PAHs) in the groundwater samples obtained within 250m of CL080 were either below or close to method detection limits and do not show evidence of impact to groundwater from CL080.<br><br>The iron, nickel and zinc concentrations detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the assessment area | No additional ground investigation is recommended as it is understood Esso will be conducting their own ground investigation. It is recommended that the results and findings of the investigation are obtained in order to assess the ground conditions to include any health and safety and or remedial requirements prior to excavation works for removal of the pipeline taking place. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available and undertaken | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | embankment. Landscape area (fill) north of the embankment). | | Groundwater: Risk to groundwater considered to be low, thus acceptable. | During construction the CEMP should be followed and if unforeseen contamination is identified appropriate assessment and mitigation should be undertaken to assess the risk posed to human health and controlled waters. | |
| Ground investigation outside potential contaminated sites but within Scheme boundary | - | - | - | General works in Area 1 include: Winterbourne Stoke cutting west, Green bridge one, embankment, B3083 underbridge, River Till cutting west, River Till Viaduct and embankment, Green bridge two, chalk grassland habitat. | Ground Investigation: 30 soil sample, 10 soil leachate samples, and 2 groundwater samples | Human health: No exceedances of human health EC detected. Risk to human health is acceptable. | The soils sampled within Area 1 were all detected at concentrations less than the EC for the protection of human health based on a public open space (park) end-use. | No further assessment or ground investigation is considered to be required<br><br>In areas where intrusive planned construction activities are taking place, a watching brief by a suitability qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered, in line with the OEMP requirements. |
| | | | | | | Surface water: Risk to the River Till is considered to be low, thus acceptable. | Although there were detections of contaminants within either the soil leachate or groundwater, or both, which could pose a risk to surface water the risk to the River Till is considered to be low,<br><br>Fluoranthene was not detected in the groundwater samples collected in this area, only in soil leachate and the exceedances were noted to be 700m from the River Till in the direction of inferred groundwater flow. The copper, nickel and zinc exceedances were all within the range of the BGS background data for the Chalk groundwater and thus considered to reflect background conditions across the assessment area. | |
| | | | | | | Groundwater: Risk to groundwater considered to be low, thus acceptable. | The phosphorus and iron concentrations detected in soil leachate or groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area.<br>The nitrate concentrations in ground investigation groundwater samples are attributed to general agricultural land-use across the Scheme area. They are marginally above BGS background data for the Chalk aquifer. | |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available and undertaken | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
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| Ground investigation outside potential contaminated sites and outside Scheme area | - | - | - | Outside the Scheme | Ground Investigation:<br><br>2 soil samples; and<br>1 soil leachate sample | No exceedances of human health EC detected. Risk to human health is acceptable.<br><br>Surface water: Risk to the River Till is considered to be low, thus acceptable.<br><br>Groundwater: Risk to groundwater considered to be low, thus acceptable. | Although the data is limited, the results and assessment correspond with the geochemical ground conditions encountered within the Scheme boundary for Area 1. The risk to human health and controlled waters is considered to be low. | No additional ground investigation is recommended. No planned construction activity is proposed outside the Scheme boundary. |
| **No ground investigation undertaken and no planned construction activities on or within 50m of the potential contaminated site** | | | | | | | | |
| CL010 - Winterbourne Stoke Chalk Pit (1879 - 1926) | 3 | Very low to low risks. | 230m from the proposed road alignment. | No works proposed within CL010. Closest works are approximately 75m north of the existing A303:<br>PW – Archaeological mitigation (SMR).<br>MW – Landscape area (fill). | No, due to very low to low baseline risk and distance from road alignment. No construction works planned within 50m. | - | Based on the overall low soil concentrations detected within Area 1 and given no proposed construction activity is planned to take place within CL010 or CL012 or within 50m of the scheme, it is considered that the risk posed to human health from these potential contaminated sites remains very low to low. Soils are unlikely to be disturbed by the works and any exposure is likely to be infrequent and transient.<br><br>The soil leachate and groundwater concentrations detected within Area 1 are generally within the BGS background data range for the Chalk groundwater. These are considered to reflect background conditions across the area, thus the risk to surface water receptors and groundwater receptors from soils in Area 1 of the Scheme (which includes CL10 and CL012) is considered to be low. | No further assessment or ground investigation is considered to be required. |
| CL012 - Manor Farm | 3 | Very low to low risks. | 190m from the proposed road alignment. | No works proposed within CL012 (as it is located outside of the Scheme boundary). Closest works are immediately north/north-west:<br>MW – Landscape area (fill), although the fill area appears to be +50m from the potentially contaminated site. | | | | |
| **No ground investigation undertaken, no planned construction activities on site but works within 50m of potential contaminated site** | | | | | | | | |
| CL003 - Cherry Lodge Farm (formerly | 3 | Very low to low risks. | 870m from the proposed road alignment. | No works proposed within CL003 (as it is located outside of the Scheme boundary). | No, due to very low to low baseline risk and distance from the proposed road | Human Health - N/A. No soil samples undertaken | Only minor works (archaeological investigation and trenching) are planned to take place within 50m of CL003. Although no soil samples undertaken within CL003, Based on low concentrations observed | No further assessment or ground investigation is considered to be required |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available and undertaken | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| Homanton Farm) | | | | Closest works are approximately 25m east of Cherry Lodge: Preliminary Works (PW) – Archaeological investigation (Strip, Map and Record (SMR)). Scottish and Southern Electricity Networks (SSEN) cable diversion (trenching). | alignment.However, one groundwater monitoring programme location located immediately down-inferred hydraulic gradient of the site | Controlled waters GQRA discussed above | within the soils in Area 1, together with the very low to low baseline risk and distance from the proposed road alignment no further ground investigation or assessment is deemed required to assess the potential risks to human health from the soils within CL003. | A watching brief by a suitability qualified professional is recommended during the planned construction activity within 50m of CL003. This will enable assessment to be undertaken should any unforeseen contamination be encountered that may be attributable to this adjacent source. |
| CL006 - Possible Infilled Ground - former Covered Reservoir | 3 | Very low to low risks. | 360m from the proposed road alignment. | No works proposed within CL006 (as it is located outside of the Scheme boundary). Closest works are immediately south-east:<br><br>PW – Archaeological mitigation (SMR).<br><br>MW – Removal (under Archaeological Monitoring and Recording (AMR))/realignment of the B3083. | No, due to very low to low baseline risk. and distance from the proposed road alignment. | - | No proposed construction activity is planned to take place within CL006 or CL098 and both are located outside the Scheme boundary. Based on this, together with the very low to low baseline risk, the distance from the proposed road alignment, the works undertaken within 50m of the site being generally minor impact works (archaeological, cabling/trenching or removal of B3083) and that concentrations of determinands detected within Area 1 have been observed to be generally low (with no exceedances of EC for human health recorded) no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL006 and CL098 to human health and controlled waters.<br><br>The soils leachate and groundwater concentrations detected within Area 1 are generally within the BGS background data range for the Chalk groundwater. These are considered to reflect background conditions across the area, thus the risk to surface water receptors and groundwater receptors from soils in Area 1 of the Scheme (which includes CL006 and CL098) is considered to be low. | No further assessment or ground investigation is considered to be required<br><br>A watching brief by a suitability qualified professional is recommended during the planned construction activity within 50m of CL006 and CL098. This will enable assessment to be undertaken should any unforeseen contamination be encountered that may be attributable to these adjacent sources. |
| CL098 - Unknown Filled Ground (pit, quarry, etc) | 4 | Very low to low risks. | 880m from the proposed road alignment. | No works proposed within CL098 (as it is located outside/bordering the Scheme boundary).Closest works are approximately 25m east of Cherry Lodge:PW – Archaeological investigation (SMR).SSEN cable diversion (trenching). | | | | |
| **No ground investigation undertaken; construction activities planned on the potential contaminated site** | | | | | | | | |
| CL001 - Pig Farm (Berwick Down) | 3 | Very low risks. | Adjacent to the proposed road alignment but not overlapping. | Main Works (MW) – Construction of a PRoW to the south of the A303 alignment and calcareous grassland | No, due to very low baseline risk. | - | Minimal MW are planned to take place within CL001. Based on the low concentrations of soil contamination encountered across Area 1 and given the very low risk baseline CSM risk rating the risk to human health from the soils within CL001 is considered to remain very low. | No further assessment or ground investigation is considered to be required for CL001, CL005 and CL014 and CL015. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available and undertaken | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
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| | | | | creation on highway verge. | | | The soils leachate and groundwater concentrations detected within Area 1 are generally within the BGS background data range for the Chalk groundwater. These are considered to reflect background conditions across the area, thus the risk to surface water receptors and groundwater receptors from soils in Area 1 of the Scheme is considered to be low.<br><br>During construction the CEMP should be followed and if unforeseen contamination is identified appropriate assessment and mitigation should be undertaken to assess the risk posed to human health and controlled waters. | In areas where intrusive planned construction activities are taking place, a watching brief by a suitability qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered. |
| CL005 - Pumping House | 3 | Very low to moderate/low risks. | 20m from the proposed road alignment. | PW – Archaeological mitigation (Archaeological Excavation and Recording (AER)).<br><br>MW – Immediately adjacent to a landscaping area (fill area, south of the new alignment). Woodland planting. | No, as although moderate/low risks were identified to on-site commercial users, this is a historical feature and therefore on-site commercial users are not present. Therefore, risk to human health is very low. | - | Although close to the proposed road alignment, given the absence of current on-site commercial users, the low concentrations of soil contaminants encountered across assessment Area 1 and the minimal main works taking place (which includes fill rather than cut) it is considered that the risk to human health is low.<br><br>The soils leachate and groundwater concentrations detected within Area 1 are generally within the BGS background data range for the Chalk groundwater. These are considered to reflect background conditions across the assessment area, thus the risk to surface water receptors and groundwater receptors from soils in Area 1 of the Scheme is considered to be low.<br><br>During construction the CEMP should be followed and if unforeseen contamination is identified appropriate assessment and mitigation should be undertaken to assess the risk posed to human health and controlled waters. | |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available and undertaken | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| CL014 - Unspecified Pit (1878 - 1926). Adjacent/ within Area of Fill (Demolition Rubble) (CL015) | 4 | Very low to low risks. | Overlaps onto the proposed road alignment (proposed as fill at this location). | PW – Badger sett closure/destruction. Great crested newt mitigation (fencing/ hibernacula removal)). Archaeological mitigation (SMR).<br><br>MW – Eastern-most portion of CL014 to form northern half of the west embankment of the Till viaduct.Woodland planting on embankment.Remaining area to be landscaped (fill). Returned to agriculture. | No, due to very low to low baseline risk. | | Although close to the proposed road alignment, the low concentrations of soil contaminants encountered across assessment Area 1 and the minimal main works taking place and also where major works is taking place this is fill rather than cut it is considered that the risk to human health is low.<br><br>The soils leachate and groundwater concentrations detected within Area 1 are generally within the BGS background data range for the Chalk groundwater. These are considered to reflect background conditions across the assessment area, thus the risk to surface water receptors and groundwater receptors from soils in Area 1 of the Scheme is considered to be low.<br><br>During construction the CEMP should be followed and if unforeseen contamination is identified appropriate assessment and mitigation should be undertaken to assess the risk posed to human health and controlled waters. | |
| CL015 - Area of Fill (Demolition Rubble) | 4 | Very low to low risks. | 130m from the proposed road alignment. | PW – Badger sett closure/destruction. Great crested newt mitigation (fencing/ hibernacula removal). Archaeological mitigation (SMR).<br><br>MW – Landscape area (fill). Return to agriculture. | No, due to very low to low baseline risk and distance from the proposed road alignment. | - | | |

**As defined in the ES.*
***Only the receptors that were identified as having moderate/low risk and above have been identified specifically in the table.*
****In relation to the proposed road alignment itself (not the Scheme boundary).*
*No further ground investigation or further assessment required are highlighted in green.*
*Ground investigation recommended or further assessment required highlighted in yellow or amber depending on outcome of GQRA.*
*Outcome of GQRA is acceptable this is highlighted in green.*
*Outcome of GQRA is uncertain this is highlighted in yellow.*
*Outcome of GQRA is potentially unacceptable, this is highlighted in amber.*

## 8.2 Area 2 Longbarrow Junction

**Table 8-2 Area 2 Longbarrow Junction: summary of assessment & further works**

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| **Locations where GQRA undertaken** | | | | | | | | |
| CL018 - Former RAF Oatlands Hill (1941 - 1946) | 5 | Very low to moderate / low risks. | Overlaps onto the proposed road alignment. | A large portion of CL018 will be unaffected by any construction works.<br><br>PW – Archaeological mitigation (AER, SMR and AMR (removal of the existing A303)). Badger sett closures on the southern embankment of the existing A303. SSEN cable installation (trenching and HDD launch pit location).<br><br>MW – Removal of the existing A303. New Longbarrow junction – dumbbells, slip roads and mainline within cutting. Calcareous grassland creation on verges / cuttings. Return to agriculture. | Ground Investigation:<br><br>17 soil samples;<br>5 soil leachate samples; and<br>2 groundwater samples | Human health:<br>No exceedances of human health EC detected. Risk to human health is acceptable. | No exceedances of human health EC detected.<br><br>During construction the CEMP should be followed and if unforeseen contamination is identified appropriate assessment and mitigation should be undertaken to assess the risk posed to human health. | No further assessment or ground investigation is considered to be required<br><br>In areas where intrusive planned construction activities are taking place, a watching brief by a suitability qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered. |
| | | | | | | Surface water:<br>Risk to the River Till and River Avon is considered to be low, thus acceptable. | The PAH compounds detected in both leachate and one of the ground investigation groundwater samples may be attributed to localised occurrence in soils related to former site use or conditions across Area 2. Similarly, the cyanide detected in the groundwater sample may also relate to these sources. However, as the potential distance to the River Till in the inferred direction of groundwater flow is over 1.2km the detected concentrations are not considered to pose an unacceptable risk to surface water in this receptor.<br><br>The copper, nickel and zinc detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area. | Whilst no additional ground investigation is recommended, given the intrusive MW proposed at CL018, measures should be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific re-use assessment criteria should be calculated that take account the potential migratory distance to the River Till. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Groundwater: Risk to groundwater considered to be low, thus acceptable | The phosphorus detected in soil and groundwater at this site, and nitrite in groundwater, are not considered to pose an unacceptable risk to groundwater. The recorded phosphorus concentrations are considered consistent with Chalk groundwater across the Scheme area.<br><br>Whilst the nitrite concentrations detected in groundwater are higher than the BGS regional maximum at both locations they are attributed to general agricultural land-use across the Scheme rather than from soils at CL018.<br><br>Naphthalene and phenanthrene detected in groundwater at CP71302 were not detected in soil leachate, and could reflect background conditions across Area 2, or they could be attributed to activities associated with the Former RAF Oatlands Hill. The exceedances of EC were marginal. | No further assessment or ground investigation is considered to be required<br><br>In areas where intrusive planned construction activities are taking place, a watching brief by a suitability qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered. |
| CL021 - Pump House (and associated former Covered Reservoir - potentially infilled) | 4 | Very low to moderate/low risks. | 170m from the proposed road alignment. | No works planned within CL021 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately south:<br>PW – Immediately north of archaeological mitigation (SMR). Water pipeline installation (trenching).<br>MW – Return to agriculture. | Ground Investigation:<br><br>No soil, soil leachate or groundwater samples, due to distance from the proposed road alignment.<br><br>Groundwater monitoring programme 1 groundwater monitoring programme location within CL021. | Surface water: Risk to the River Till and River Avon is considered to be low, thus acceptable. | The zinc detected in groundwater are up to an order of magnitude above the BGS background data for the Chalk groundwater. However, this was the only determinand to exceed EC at this location. Noting the absence of works planned at CL021 that could result in further disturbance of soils and based on the potential distance to the River Till in the inferred direction of groundwater flow (over 2km) the detected concentrations are not considered to pose an unacceptable risk to the River Till / River Avon. | No further assessment or ground investigation is required with regard to controlled waters. However, a watching brief is recommended during construction works adjacent to CL021 to enable assessment to be undertaken should any unforeseen contamination be encountered during the works that may be attributable to this site. |
| | | | | | | Groundwater: Risk to groundwater considered to be low, thus acceptable. | The recorded phosphorus concentrations are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area.<br>Although the marginal nitrate exceedance is higher than the BGS regional maximum, it is attributed to general agricultural land-use across the Scheme area. | |
| CL025 - Former Larkhill Military Light Railway (Dismantled) | 4 | Very low to moderate/low risks. | Overlaps onto the proposed road alignment. | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting. Removal of the existing A303 (under AMR)/conversion to | Ground Investigation:<br><br>No soil samples within CL025 boundary.<br>3 soil samples obtained within 50m of CL025 | Human health: Risk to human health is acceptable. | No specific ground investigation along route of CL025. However, soils analysed from locations within 50m proximity of CL025 did not exceed the EC for any of determinands analysed. The PAH exceedance in TP4_LRI is unlikely to be related to contamination deriving from CL025 and is more likely associated with Longbarrow roundabout road surface given the presence of tarmac/bitumen within the soil sample. | No further assessment or ground investigation is considered to be required<br><br>In areas where intrusive planned construction activities are taking place, a watching brief by a suitability |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | PRoW. Calcareous grassland creation adjacent to cutting, redundant A303 (which is not PRoW, and PRoW verges). | Groundwater monitoring programme<br><br>One groundwater monitoring programme location adjacent to CL025. | Surface water:Risk to the River Till and River Avon is considered to be low, thus acceptable. | The copper, iron and zinc detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to surface water receptors from these determinands is considered to be low. | qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered. |
| | | | | | | Groundwater: Risk to groundwater considered to be low, thus acceptable. | Whilst phosphorus concentrations exceeded the maximum BGS background value for Chalk groundwater in 75% of the samples collected, the filtered (dissolved) phosphorus concentrations are all within the range reported by the BGS.<br><br>The recorded nitrate concentrations are higher than the BGS regional maximum, however, the exceedance of EC is only marginal and limited to two of the eight samples collected.<br><br>These determinands are considered indicators of more diffuse sources present across the area (agricultural use) and not likely to be related to the historical military railway.<br><br>The iron concentrations detected are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area. | |
| CL028 - Rollestone Camp | 5 | Very low to low risks. | Adjacent to the proposed road alignment but not actually overlapping. | No works proposed within CL028 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately south<br><br>PW – Archaeological mitigation (AER). Realignment of Rollestone cross (highways works)/removal of redundant A360 (under AMR).<br>Return to agriculture. | Ground Investigation:<br><br>No soil samples within CL028 boundary;<br><br>3 No. soil samples obtained from a location within 39m proximity of CL028<br><br>Groundwater monitoring programme:<br><br>One groundwater monitoring programme location was | Human health: Risk to human health is acceptable. | No specific ground investigation within CL028. However, soils analysed from locations within 39m proximity of CL028, within the Scheme boundary did not exceed the EC for any of determinands analysed.<br><br>There are no proposed works within CL028 and the works within 50m are minimal and/or include removal of redundant A360. | No further assessment or ground investigation is required.<br><br>However, a watching brief is recommended during construction works adjacent to CL028 to enable assessment to be undertaken should any unforeseen contamination be encountered during the works that may be attributable to CL028. |
| | | | | | | Surface water: Risk to the River Till and River Avon is considered to be low, thus acceptable. | The recorded iron concentration is below the maximum background level for Chalk groundwater and considered to reflect background conditions across the area. | |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
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| | | | | | immediately down-inferred hydraulic gradient of the site. | Groundwater: Risk to groundwater considered to be low, thus acceptable. | The recorded phosphorus and iron concentrations are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area. Based on this, they are not considered to pose an unacceptable risk to groundwater. | |
| CL033 - Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range | 4 | Very low to low risks. | Adjacent to the proposed road alignment but not actually overlapping. | No works proposed within CL033 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are south of The Packway:<br><br>PW – Archaeological mitigation (AER).<br>Realignment of Rollestone cross (highways works)/removal of redundant A360 (under AMR).<br>Return to agriculture. | CL033 is located outside of the Scheme<br><br>Ground investigation:<br><br>No soil samples obtained within CL033 boundary; and<br>3 soil samples obtained within 65m proximity of CL033.<br><br>Groundwater monitoring programme:<br><br>One groundwater monitoring programme location immediately down-inferred hydraulic gradient of the site. | Human health: Risk to human health is acceptable. | No specific ground investigation undertaken within CL033. However, soils analysed from locations within 65m proximity of CL033, within the Scheme boundary did not exceed the EC for any of determinands analysed. There are no planned construction activities proposed within CL033 | No further assessment or ground investigation is required.<br><br>However, a watching brief is recommended during construction works adjacent to CL033 to enable assessment to be undertaken should any unforeseen contamination be encountered during the works that may be attributable CL033. |
| | | | | | | Surface water: Risk to the River Till and River Avon is considered to be low, thus acceptable. | The recorded iron concentration is below the maximum background level for Chalk groundwater and considered to reflect background conditions across the area. | |
| | | | | | | Groundwater: Risk to groundwater considered to be low, thus acceptable. | The recorded phosphorus and iron concentrations are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area. Based on this, they are not considered to pose an unacceptable risk to groundwater. | |
| CL034 - Pig Farm (Longbarrow Roundabout) | 3 | Very low risks. | Overlaps onto the proposed road alignment. | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation adjacent to cutting, redundant A303 (which is not PRoW, and PRoW verges). | Ground investigation:<br><br>6 soil samples were obtained from within CL034 boundary;<br>1 soil sample from a location within 7m proximity of CL034; and<br>1 soil leachate sample was obtained within CL034.<br><br>Groundwater monitoring programme: | Human health: Risk to human health is acceptable. | The PAH exceedance in TP4_LRI is unlikely to be related to contamination deriving from CL034 and is more likely associated with Longbarrow roundabout road surface given the presence of tarmac/bitumen within the soil sample. Given the exceedance was marginal and there is absence of an indication of lateral migration of contamination, the exceedance is unlikely to pose a significant risk to human health | No further assessment or ground investigation is considered to be required<br><br>In areas where intrusive planned construction activities are taking place, a watching brief by a suitability qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | | One groundwater monitoring programme location at CL034 | Surface water:Risk to the River Till and River Avon is considered to be low, thus acceptable. | The PAH compounds detected in soil leachate may be attributed to localised occurrence related to former site use. However, these determinands were not detected in groundwater samples collected at this site. Also, given the potential distance to the River Till in the inferred direction of groundwater flow (over 2.5km) the detected concentrations are not considered to pose an unacceptable risk to surface water at this receptor.The copper, iron and zinc detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the assessment area. | Whilst no additional ground investigation is recommended, given the intrusive MW proposed at CL034, measures should be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific re-use assessment criteria should be calculated that take account the potential migratory distance to the river. |
| | | | | | | Groundwater: Risk to groundwater is acceptable - limited soil leachate data and elevated phosphate results in groundwater. | As discussed in relation to site CL025, the levels of phosphorus, nitrate and iron detected in groundwater from well W1 are thought likely to reflect background levels or more diffuse sources across the area,<br><br>No determinands were detected at concentrations above EC in the soil leachate sample from this location.<br><br>However, given the elevated phosphorus levels detected in groundwater and as the current land use (farming) is a potential source, the level of risk posed from phosphorus in soil at CL034 to groundwater is currently uncertain.<br><br>The iron and nitrate levels detected are not considered to pose an unacceptable risk to groundwater. | The collection of addition soil leachate samples may be required to refine the potential risk to groundwater.<br><br>Further assessment of this risk may be necessary either in advance of the works or through development of criteria and a procedure for testing of soils excavated in this area during the works, prior to re-use. The proposed works include a cutting which may result in source removal if a source is identified. |
| Outside potential contaminated sites but within Scheme area | - | - | - | General works in Area 2 include: Longbarrow Junction, including Longbarrow cutting (west, central and east), Longbarrow dumbbell (north and south), New Longbarrow junction eastern and western | Ground Investigation: 17 soil samples obtained outside the potential contaminated sites but were within the Scheme boundary.<br><br>2 soil leachate samples were obtained outside | Human health: Risk to human health is acceptable. | No exceedances of human health EC detected. | No further assessment or ground investigation is considered to be required. In areas where intrusive planned construction activities are taking place, a watching brief by a suitability qualified professional is recommended to enable |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | merge, New Longbarrow junction eastern and western diverge, realigned A360 north and south, Green Bridges 3 and 4. There is also a proposed corridor for utility connection, the cutting approach to the western portal and Rollestone Junction. | contaminated land sites within Area 2 but within the Scheme boundary. | Surface water: Risk to the River Till and River Avon is considered to be low, thus acceptable. | The PAH compounds detected in soil may be attributed to localised occurrence related to general conditions across the area. Given the distance to the River Till in the inferred direction of groundwater flow (approximately 2km) these are not considered to pose an unacceptable risk to surface water at this receptor.<br><br>The copper, zinc and lead concentrations detected in groundwater are within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area.<br><br>The cyanide detected only marginally exceeded the EC and so does not indicate an unacceptable risk from this determinand at this location. | appropriate assessment to be undertaken should any unforeseen contamination be encountered. |
| | | | | | | Groundwater: Risk to groundwater considered to be low, thus acceptable. | The recorded iron and manganese concentrations are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area. Based on this, they are not considered to pose an unacceptable risk to groundwater. | |
| **No ground investigation undertaken and no planned construction activities on site or within 50m of a potential contaminated site** | | | | | | | | |
| None | | | | | | | | |
| **No ground investigation undertaken and no planned construction activities on site but works within 50m of potential contaminated site** | | | | | | | | |
| CL021 - Pump House (and associated former Covered Reservoir - potentially infilled) | 4 | Very low to moderate/low risks. | 170m from the proposed road alignment. | No works planned within CL021 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately south: PW – Immediately north of archaeological mitigation (SMR). Water pipeline installation (trenching). MW – Return to agriculture. | No, due to distance from the proposed road alignment. However, one groundwater monitoring programme location is at CL021. | Human Health - N/A. No soil samples undertaken.<br><br>Controlled waters GQRA discussed above. | No proposed construction activity is planned to take place within CL021. The closest planned construction is also likely to be minor (archaeological and cable installation). | No further assessment or ground investigation is required with regard to human health.<br><br>However, a watching brief is recommended during construction works adjacent to CL021 to enable assessment to be undertaken should any unforeseen contamination be encountered during the works that may be attributable to CL021. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| **No ground investigation undertaken; construction activities planned on the potential contaminated site** | | | | | | | | |
| CL016 - Historic Barn and Above Ground Tank (1877 - 1961) | 3 | Very low to low risks. | 40m from the proposed road alignment. | PW – Archaeological mitigation (SMR).<br>MW – Immediately south of the eastbound exit/westbound entry slip roads of new Longbarrow Junction. Anticipated to be outside of the highway cutting. Existing A303 to be converted to Private Means of Access (PMA). Woodland planting. | No, due to very low to low baseline risk. | - | Only archaeological mitigation and the conversion of the A303 to PMA is planned to occur on the site. CL016 is outside the MW cutting. Therefore, there will minimal works taking place at CL016.<br><br>Only minor works including archaeological mitigation, cable installation and the Temporary A360 alignment/diversion to enable removal/construction of Longbarrow junction is planned to occur at CL020<br><br>Only minor works including cable installation within the existing highway is planned to occur at CL023.<br><br>Given the low concentrations of soil contaminants encountered across Area 2 and the Scheme it is considered that no further assessment or ground investigation is required with respect to these locations. The baseline CSM of very low to low risk with regard to human health and controlled waters for CL016 and CL020 remains valid. The baseline CSM risk for human health for CL023 can be reduced to very low to low risk and controlled waters low baseline risk remains valid.<br><br>During construction the CEMP should be followed and if unforeseen contamination is identified appropriate assessment and mitigation should be undertaken to assess the risk posed to human health. | No further assessment or ground investigation is required with regard to human health or controlled waters. However, a watching brief is recommended during construction works at CL016, CL020 and CL023 to enable assessment to be undertaken should any unforeseen contamination be encountered during the works that may be attributable to these potential contaminated sites. |
| CL020 - Infilled and unspecified Pits and Ground Workings (1879 - 1957) | 4 | Very low to low risks. | 90m from the proposed road alignment. | PW – Archaeological mitigation (SMR). SSEN cable installation (trenching).<br><br>MW – Temporary A360 alignment/diversion to enable removal/construction of Longbarrow. Return to agriculture. | No, due to very low to low baseline risk. | - | | |
| CL023 - Former RAF Lake Down (1917 - 1924) | 5 | Very low to moderate/low risks. | 570m from the proposed road alignment. | PW – SSEN cable installation within A360 highway (trenching within carriageway). | No, due to distance from the proposed road alignment. | - | | |

**As defined in the ES.*
***Only the receptors that were identified as having moderate/low risk and above have been identified specifically in the table.*
****In relation to the proposed road alignment itself (not the Scheme boundary).*
*No further ground investigation or further assessment required are highlighted in green.*
*Ground investigation recommended of further assessment required highlighted in yellow or amber depending on outcome of GQRA.*
*Outcome of GQRA is acceptable this is highlighted in green.*
*Outcome of GQRA is uncertain this is highlighted in yellow.*
*Outcome of GQRA is potentially unacceptable, this is highlighted in amber.*

## 8.3 Area 3 Western Tunnel Portal to Eastern Tunnel Portal

**Table 8-3 Area 3 Western Tunnel Portal to Eastern Tunnel Portal: summary of assessment & further works**

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| **Locations where GQRA undertaken** | | | | | | | | |
| CL035 - Former RAF Stonehenge (1917 - 1921) | 5 | Very low to moderate/low risks. | Overlaps onto the proposed road alignment. | MW – Tunnel passes below area.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation along PRoW verges. | Ground Investigation:<br>11 soil samples obtained within CL035 boundary;<br>1 groundwater sample within CL035 only;<br>2 groundwater samples within CL035 and CL036 (overlap); and<br>No soil leachate data.<br><br>Groundwater monitoring programme:<br>1 groundwater sample obtained on the boundary of CL035;<br>3 groundwater samples were collected down-inferred hydraulic gradient of CL035 and CL036. | Human health:<br>No exceedances of human health EC detected. Risk to human health is acceptable. | Soil analysis from soils sampled within CL035 did not result in any exceedances for the relevant human health EC. Minimal works are proposed within CL035 as the MW are the tunnel which passes at depth below CL035.<br><br>During construction the CEMP should be followed and, if unforeseen contamination is identified, appropriate assessment and mitigation should be undertaken to assess the risk posed to human health prior to works continuing. | No further assessment or ground investigation is considered to be required<br><br>In areas where intrusive planned construction activities are taking place, a watching brief by a suitability qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered. |
| | | | | | | Surface water. Risk to River Avon is considered to be low, thus acceptable | The potential distance to the River Avon in the inferred direction of groundwater flow is 2km from the potential contaminated sites (CL035 and CL036). Therefore, the detected concentrations of PAHs, metals and inorganics which exceeded the EC protective of surface water within CL035 are not considered to pose an unacceptable risk to surface water at this receptor<br><br>Elevated concentrations of PAH (fluoranthene) detected within the groundwater within CL035 is considered a localised exceedance. Fluoranthene was not detected within the groundwater monitoring programme sampling wells within Area 3. However, it should be noted that soil leachate data has not been obtained from the soils within CL035.<br><br>The copper and zinc exceedances within groundwater within CL035 are noted to be within BGS background range. Nickel was detected marginally above BGS background range, but the level of exceedance was generally low. | No further assessment or ground investigation is considered to be required<br><br>Although no soil leachate data has been obtained from CL035 the general groundwater quality in Area 3 is consistent with the BGS background for the Chalk aquifer, suggesting that the soils within CL035 are not leaching at concentrations which are likely to impact on the surface water or groundwater quality.<br><br>In areas where intrusive construction activities are taking place a watching brief is recommended to enable assessment should any unforeseen contamination |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Groundwater: Risk to groundwater is considered to be low, thus acceptable | Concentrations of phosphorous, manganese and nitrite are also noted to be within the BGS background range for the Chalk aquifer.<br><br>Within the groundwater monitoring programme wells, both iron and phosphorous were recorded to be an order of magnitude greater than the BGS background range for these determinands. However, it should be noted that the filtered (dissolved) phosphorous concentrations were all less the BGS background for the Chalk aquifer. The iron and phosphorus levels detected are considered to be indicative of background concentrations and diffuse sources across the Scheme.<br><br>The nitrate concentrations detected within the groundwater monitoring programme wells in Area 3 were noted to be isolated, marginal exceedances of the EC and likely to be reflective of the general agricultural land use in the Scheme area. and not associated with CL035 | be encountered during the works. |
| CL036 - Former Stonehenge Pedigree Stock Farm (1924 - 1926) | 3 | Very low risks. | Overlaps onto the proposed road alignment. | MW – Tunnel passes below area.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation along PRoW verges. | Ground Investigation:<br><br>9 soil samples;<br>2 samples within CL035 and CL036(overlap); and<br>No soil leachate data.<br><br>Groundwater monitoring programme:<br><br>3 groundwater samples collected | Human health: No exceedances of human health EC detected. Risk to human health is acceptable. | Given CL036 is located within CL035, the summary of risk to the human health is the same as that presented above for CL035. | No further assessment or ground investigation is considered to be required |
| | | | | | | Surface water. Risk to River Avon is considered to be low, thus acceptable. | Given CL036 is located within CL035, the summary of risk to the River Avon is the same as that presented above for CL035. | |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | | down-inferred hydraulic gradient of CL035 and CL036. | Groundwater: Risk to groundwater is considered to be low, thus acceptable. However, potential data gap due to groundwater results, CL036 land use and lack of soil leachate data. | Given CL036 is located within CL035, the overall risk to groundwater is as presented above for CL035.The addition is that CL036 is a former farm and there is the potential that the nitrate, nitrite and potentially phosphorous exceedances detected in groundwater could be attributable to this agricultural source. However, the farm activities are historical, only noted to be present pre 1926, therefore, this is not likely to be a significant source if present. | Although overall the risk to groundwater is low and acceptable, a data gap remains with regard the absence of soil leachate data. Given the historical farm activities associated CL036, it is recommended that testing of soils is undertaken from the area before re-use (conversion of the A303 to a PRoW), and assessment of suitability for re-use is based on site-specific assessment criteria. |
| Outside potential contaminated sites but within Scheme boundary | - | - | - | General works in Area 3 include: Canopy approach to western portal and Western Portal tunnel construction, eastern portal and Stonehenge road converted to byway and private means of access. | Ground Investigation:<br><br>11 soil samples;<br>20 soil leachate samples; and<br>7 groundwater samples<br><br>Groundwater monitoring programme: One. well located adjacent to those previously sampled during the GI. | Human health: No exceedances of human health EC detected. Risk to human health is acceptable.<br><br>Surface water. Risk to River Avon is considered to be low, thus acceptable | Soil analysis from soils sampled did not result in any exceedances of the relevant human health EC. Therefore, risk to human health is considered acceptable.<br><br>The PAH, metals and inorganics detected at concentrations above EC are considered not to pose an unacceptable risk to the River Avon.<br><br>The PAH (fluoranthene and benzo(a)pyrene) detected in the soil leachate and groundwater samples are considered to be localised exceedances. PAHs were not detected within the groundwater monitoring programme wells within Area 3.<br><br>The metal exceedances detected (copper and nickel, zinc were in the BGS background range for the Chalk aquifer. Lead was one order of magnitude greater that the BGS background range but was only recorded at this concentration during the 2001 investigation. Similarly, cyanide was only detected in groundwater in a sample from 2001 but also one sample from the groundwater monitoring programme. Therefore, both lead and cyanide are considered isolated, low risk occurrences. | No further assessment or ground investigation is considered to be required<br><br>In areas where intrusive planned construction activities are taking place, a watching brief by a suitability qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Groundwater: Risk to groundwater is considered to be low, thus acceptable | Phosphorous, iron, were noted with be within the BGS background concentration range for the Chalk aquifer.<br><br>Nitrite and nitrite was only detected as marginal exceedances<br><br>The cyanide exceedance within groundwater was an isolated detection and not considered to be a source of contamination which would impact on overall groundwater quality.<br><br>As part of the groundwater monitoring programme, groundwater samples obtained also observed iron concentration to be within the BGS background concentration range, confirming that the iron concentrations detected are likely to be a reflection of general background conditions rather than a particular source within Area 3.<br><br>The phosphorous detected within these wells was noted to be up to one order of magnitude greater than the BGS background range. However, the filtered (dissolved) phosphorous at these located were recorded as less than mean of BGS background data for the Chalk aquifer. Therefore, the phosphorous is considered to reflect background conditions. | |
| Outside potential contaminated sites and outside Scheme boundary | - | - | - | Outside the Scheme. | Ground Investigation:<br><br>10 soil samples;<br>4 soil leachate samples; and<br>1 groundwater sample.<br><br>Groundwater monitoring programme: One well located adjacent to those previously sampled during the GI. | Human health: No exceedances of human health EC detected. Risk to human health is acceptable.<br><br>Surface water. Risk to River Avon is considered to be low, thus acceptable<br><br>Groundwater: Risk to groundwater is considered to be low, thus acceptable | | No further assessment or ground investigation is considered to be required<br><br>In areas where intrusive planned construction activities are taking place, a watching brief by a suitability qualified professional is recommended to enable appropriate assessment to be undertaken should any unforeseen contamination be encountered. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| **No ground investigation undertaken and no planned construction activities on site or within 50m of a potential contaminated site** | | | | | | | | |
| CL037 - Former Sewage Outfall (disused 1924, removed 1970) | 4 | Very low to low risks. | 70m from the proposed road alignment. | No works planned within CL037 o works planned within CL037.<br><br>Closest works +50m from the CL037 (see above for CL036) | No, due to very low to low baseline risk. Furthermore, no works planned within the CL047 or within 50m. | - | No proposed construction activity is planned to take place within CL037 or within 50m of CL037. Based on this, together with the very low to low baseline risk, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL045 to human health, surface water or groundwater. | No further assessment or ground investigation is considered to be required. |
| CL039 - Disused Tip (1974) | 3 | Very low to low risks. | 330m from the proposed road alignment. | No works proposed within CL039 (outside Scheme).<br><br>No works planned within 50m of CL039. | No, due to very low to low baseline risk and distance from the proposed road alignment. Furthermore, no works planned within CL039 or within 50m. | - | No proposed construction activity is planned to take place within CL039 or within 50m of CL039. Based on this, together with the very low to low baseline risk, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL039 to human health, surface water or groundwater. | |
| **No ground investigation undertaken and no planned construction activities on site but works within 50m of potential contaminated site** | | | | | | | | |
| None | | | | | | | | |
| **No ground investigation undertaken; construction activities planned on the potential contaminated site** | | | | | | | | |
| None | | | | | | | | |

**As defined in the ES.*
***Only the receptors that were identified as having moderate/low risk and above have been identified specifically in the table.*
****In relation to the proposed road alignment itself (not the Scheme boundary).*
*No further ground investigation or further assessment required are highlighted in green.*
*Ground investigation recommended of further assessment required highlighted in yellow or amber depending on outcome of GQRA.*
*Outcome of GQRA is acceptable this is highlighted in green.*
*Outcome of GQRA is uncertain this is highlighted in yellow.*
*Outcome of GQRA is potentially unacceptable, this is highlighted in amber.*

## 8.4 Area 4 Eastern Tunnel Portal to East of Countess Junction

**Table 8-4 Area 4 Eastern Tunnel Portal to East of Countess Junction: summary of assessment & further works**

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| **Locations where GQRA undertaken** | | | | | | | | |
| CL041 - Former Quarry (1899 - 1961) | 4 | Very low to low risks. | Within the proposed road alignment. | PW – Archaeological mitigation (SMR).<br><br>MW – Removal of existing A303/construction of new highway within cutting. Calcareous grassland creation and woodland planting. | Ground Investigation:<br><br>2 soil samples obtained within CL041;<br>2 soil samples from locations within 2m and 5 m proximity of CL041; and<br>1 No. soil leachate sample was obtained within CL041.<br><br>Groundwater monitoring programme:<br><br>2 locations were down-inferred hydraulic gradient of CL041. | Human health: No exceedances of human health EC detected. Risk to human health is acceptable. | Soil analysis from soil sampled within or in proximity of CL041 did not result in any exceedances for the relevant human health EC. Therefore, risk to human health is considered acceptable.<br><br>During construction the CEMP should be followed and, if unforeseen contamination is identified, appropriate assessment and mitigation should be undertaken to assess the risk posed to human health. | No further assessment or ground investigation is required.<br><br>In areas where intrusive construction activities are taking place (cutting), a watching brief is recommended to enable assessment to be undertaken should any unforeseen contamination be encountered during the works. |
| | | | | | | Surface water. Risk to River Avon is low but uncertain. | The risk posed by soils at CL041 to the River Avon is uncertain. There is variability in metal concentrations (copper, iron, lead and zinc) detected in groundwater, whilst metals within the soil leachate sample obtained, only indicated marginal copper exceedances against EC for protection of surface water and this concentration was less than the maximum of the BGS background data for the Chalk groundwater.<br><br>Groundwater samples down-hydraulic gradient of CL041 are above the range of the BGS background data in some samples. However, variability in metal concentrations in neighbouring wells AS and WS02, and variable results over time in WS02, suggest the elevated levels are localised. Also, given the occurrence of these metals in groundwater elsewhere in the Scheme area, they may not specifically come from a source at CL041.<br><br>This site is located approximately 200m from the River Avon in the direction of inferred groundwater flow, and migration along this intermediate pathway may act to attenuate or delay migration of these metals to the river.<br><br>Whilst the soil leachate data and potential mitigation due to the distance from the river indicate a low risk to surface water from the soils tested in CL041, the groundwater sampled down-gradient sometimes contained metals above the EC, primarily at WS02. | Whilst no additional ground investigation is recommended, given the uncertainty and the intrusive MW proposed across CL041, measures should be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific re-use assessment criteria should be calculated that take account of the potential migratory distance to the River Avon. |
| | | | | | | Groundwater: Risk to groundwater considered to be low, thus acceptable | The phosphorus and iron detected in soil leachate and groundwater at concentrations above the EC are considered to reflect background conditions across the Scheme and do not indicate an unacceptable risk to groundwater from CL041. | No further assessment or ground investigation is required.<br><br>In areas where intrusive construction activities are taking place (cutting), a watching brief is recommended to enable assessment to be undertaken |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | During construction the CEMP should be followed and, if unforeseen contamination is identified, appropriate assessment and mitigation should be undertaken to assess the risk posed to groundwater. | should any unforeseen contamination be encountered during the works. |
| CL050 - Pumping Station | 3 | Very low to low risks. | Located 5m from the proposed road alignment. | MW – Embankment for new A303 countess roundabout flyover. Amenity tree and shrub planting. | No, due to very low to low baseline risk. However, 3 soil samples within 15m proximity, north of the area were collected for general characterisation of ground conditions across the scheme. | Human health: No exceedances of human health EC detected. Risk to human health is acceptable. | Soil analysis from soils in proximity of CL050 did not result in any exceedances against the relevant human health EC. The MW also include an embankment which once placed would reduce exposure from possible contaminants which may be present in the near surface soils.<br><br>During construction the CEMP should be followed and, if unforeseen contamination is identified, appropriate assessment and mitigation should be undertaken to assess the risk posed to human health. | No further assessment or ground investigation is required.<br><br>In areas where intrusive construction activities are taking place (cutting), a watching brief is recommended to enable assessment to be undertaken should any unforeseen contamination be encountered during the works. |
| CL051 - Countess Filling Station | 4 | Very low to moderate risks. | Located 40m from the proposed road alignment. | No works proposed within CL051 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately east:<br><br>MW – Countess Compound, however this should be constructed using 'no-dig' i.e. non-intrusive. Possible construction of the compound exit route (would likely be intrusive – to be confirmed). | No samples obtained within CL051 boundary due to land access issues. Closest soil samples assessed are 4 No. soil samples 48m and 65m east of CL051.<br><br>One soil leachate sample was obtained 48m east of CL051.<br><br>One groundwater sample was obtained 65m east of CL051. | Human health: No exceedances of human health EC detected. Risk to human health is acceptable. | Soil analysis from soils in proximity of CL051 did not result in any exceedances for the relevant human health EC. No planned construction works are proposed within CL051 (as it is located outside/bordering the Scheme boundary). | No further assessment or ground investigation is required with regard to human health or controlled waters. There are no planned construction works at CL051 and no intrusive works for the Countess Compound adjacent to CL051 is anticipated as this should be constructed using 'no-dig' techniques. |
| | | | | | | Surface water. Risk to River Avon is considered to be low, thus acceptable | The concentration of copper detected in soil leachate is not considered to indicate an unacceptable risk to surface water at this location as it was only marginally above the EC, and it was within the range of the BGS background data.<br><br>In addition, this site is located approximately 130m from the river in direction of inferred groundwater flow, and migration along this intermediate pathway may attenuate or delay input to the river. | |
| | | | | | | Groundwater: Risk to groundwater is considered to be low, thus acceptable | The phosphorus detected in soil leachate and groundwater at concentrations above the EC was within the range of the BGS background data and are considered to reflect background conditions across the Scheme. | |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| CL102 - Motor Works | 3 | Very low to moderate/low risks. | Located 50m from the proposed road alignment (eastern-most extent near Allington Track). | No works proposed within CL102 (as it is located outside of the Scheme boundary).No works proposed within 50m of CL102. | No ground investigation undertaken. Sites to the east of the eastern extent of the proposed road alignment were not targeted by ground investigation.<br><br>However, two soil samples within 42m proximity, south of the area were collected for general characterisation of ground conditions across the Scheme. | Human health:No exceedances of human health EC detected. Risk to human health is acceptable. | Soil analysis from soils in proximity of CL102 did not result in any exceedances for the relevant human health EC Therefore, risk to human health is considered to be low, reducing the initial moderate/low risk originally assigned. Also, no works are proposed within CL102 (as it is located outside of the Scheme boundary) and no works proposed within 50m of CL102. Exposure to soils is thus not anticipated. | No further assessment or ground investigation is required with regard to human health. |
| Outside potential contaminated sites but within Scheme boundary | - | - | - | General works in Area 4 include: approach to eastern portal, Countess Junction, which includes Countess eastern diverge, Countess Roundabout, Countess flyover, Countess reinforced embankment. River Avon Bridge, proposed utility corridor, new link | Ground Investigation:<br><br>65 soil samples;<br>11 soil leachate samples; and<br>3 groundwater samples.<br><br>Groundwater monitoring programme:<br><br>One of the ground investigation locations was subsequently re-sampled for the groundwater | Human health: Risk considered to be low, thus acceptable. | The PAHs exceedances detected in the north area of Countess Roundabout were known to be attributed to a localised fuel spillage. The exceedances were generally found to be marginal. Further investigation of the PAH source, immediately east of TP4_CRI (excavation of (STPES1-6) towards CL051 (Countess Filling Station) recorded no human health EC exceedances No visual or olfactory evidence of contamination was noted.<br><br>It should be noted that there is limited ground investigation data in the northern and eastern extents of Area 4. However, minimal works or no planned construction works are proposed in these areas. | No further assessment or ground investigation is required<br><br>However, given the potential for PAHs (and hydrocarbons) known to be present within the area of Countess Roundabout a watching brief is recommended to enable assessment to be undertaken should any unforeseen contamination be encountered during the works. Should such contamination be encountered works should cease and assessment undertaken to assess the risk to human health and if required remediation undertaken to mitigate the risks posed. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | track between Allington Track and Amesbury Road. | monitoring programme. | Surface water Risk to River Avon considered to potentially be unacceptable - PAHs | PAHs were detected in soil leachate at locations immediately north (STEPS1, STPES2, STPES5) at concentrations that could pose a risk to the River Avon. Groundwater sampled from CP72308A also contained the same PAHs at elevated levels in excess of EC for protection of surface water. This well is adjacent to CP72308 and down-gradient of STPES1, STPES2 and STPES5 (based on the inferred groundwater flow direction). CP72308/CP72308A are approximately 25m from the river in the direction of groundwater flow. Given the level of exceedance, occurrence in groundwater and proximity of the river, leaching of PAHs from soils in this area could pose an unacceptable risk to the River Avon. These PAHs are, however, interpreted to result from localised occurrence in soils at these locations, with evidence of bitumen/tarmacadam and hydrocarbon odours noted in shallow soils (<1m depth) at CP72308, CP72308A, STPES1, STPES2 and TP4.<br><br>The PAHs were not detected at elevated concentrations in other samples from Area 4, with the exception of fluoranthene and an isolated occurrence of benzo(a)pyrene at WS72401. Fluoranthene was detected at concentrations above EC in soil leachates from elsewhere in Area 4. It is considered to reflect background conditions across the assessment area given this more widespread occurrence. Neither compound was detected in the groundwater samples assessed, other than at CP72308A. This suggests they are not leaching from soils widely and the risk to the river from PAHs leaching from the soils tested outside of those around Countess Roundabout is low.<br><br>The metals detected at levels above EC in the samples assessed are considered to reflect background conditions across the Scheme and the do not indicate an unacceptable risk to the River Avon. | The risk to the river from leaching of PAHs from soils north and south of Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated, taking account of the potential migratory distance to the river, to assess samples collected during further delineation or re-use testing. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Groundwater considered to potentially be unacceptable - PAH | PAHs were detected in soil leachate at locations immediately north of the Countess Roundabout (STEPS1, STPES2 and STPES5) at concentrations that could pose a risk to groundwater. They were also detected above the EC at (CP72308) south of the roundabout. Groundwater sampled from CP72308A also contained the some of these PAHs at elevated levels in excess of EC. This well is adjacent to CP72308 and down-gradient of STEPS1, STPES2 and STPES5 (based on the inferred groundwater flow direction). Given the level of exceedance, and presence in groundwater, leaching of PAHs from soils in this area could pose an unacceptable risk to groundwater. These PAHs are, however, interpreted to result from localised occurrence in soils at these locations, with evidence of bitumen/tarmacadam and hydrocarbon odours noted in shallow soils (<1m depth) at CP72308, CP72308A, STPES1, STPES2 and TP4_CRI.<br><br>The metals detected at levels above EC are considered to reflect background conditions across the Scheme and the do not indicate an unacceptable risk to groundwater from the locations sampled.<br><br>Nitrate was detected in one groundwater sample at levels above the EC. These are considered to be isolated occurrences and these determinands were recorded at lower levels, or were not detected, in the majority of soil leachate and groundwater samples assessed. | The risk to groundwater from leaching of PAHs from soils around Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated to assess samples collected during further delineation or re-use testing. |
| Outside potential contaminated sites and outside Scheme boundary | - | - | - | - | Ground Investigation:<br><br>7 soil samples;<br>2 soil leachate samples; and<br>2 groundwater samples.<br><br>Groundwater monitoring programme:<br><br>One of the ground investigation locations was subsequently re-sampled for the groundwater monitoring programme. | Human health: Risk considered to be low, thus acceptable | There are two locations (CP72308, CP72308A) where PAH exceedances are adjacent to, but outside the Scheme boundary. The exceedances are marginal and generally within the same order of magnitude as the relevant EC. Evidence would suggest these exceedances are localised and most likely attributable to the road and road usage at Countess Roundabout. Works in the vicinity of these locations will be associated with embankment works for the Countess Roundabout flyover. Therefore, the risk of exposure from these soils will be reduced as potential exposure pathways are likely to be removed by construction. | No further assessment or ground investigation is required with regard to human health. However, given the potential for PAHs (and hydrocarbons) known to be present within the area of Countess Roundabout a watching brief is recommended to enable assessment should any unforeseen contamination be encountered during the works. Should such contamination be encountered works should cease and assessment undertaken to assess the risk to human health and if required remediation undertaken to mitigate the risks posed. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Surface water Risk to River Avon considered to potentially be unacceptable - PAHs | Given the location of CP72308 and CP72308 in relation to Countess Roundabout (adjacent) and that they are located down-gradient of STPES1, STPES2 and STPES5 (based on the inferred groundwater flow direction) these locations have been discussed already under the “outside potential contaminated sites but within Scheme boundary” row above. | The risk to the river from leaching of PAHs from soils north and south of Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated, taking account of the potential migratory distance to the river, to assess samples collected during further delineation or re-use testing. |
| | | | | | | Groundwater considered to potentially be unacceptable - PAH & TPH | | The risk to groundwater from leaching of PAHs and aromatic hydrocarbons from soils around Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated to assess samples collected during further delineation or re-use testing. |
| **No ground investigation undertaken, no planned construction activities on site or within 50m of the potential contaminated site** | | | | | | | | |
| CL045 - Former Gas Works (1879 - 1901) and Ground Works (1961) | 4 | Very low to moderate/low risks. Moderate/low risks to groundwater (Principal aquifer) and surface water (River Avon). | Located 70m from the proposed road alignment. | No works proposed within CL045 (as it is located outside/bordering the Scheme boundary).<br><br>No works planned within 50m of CL045. | No, due to proximity from the proposed road alignment. Furthermore, no works planned within the potential contaminated site or within 50m. | - | No proposed construction activity is planned to take place within CL045, or within 50m of CL045. It is also located outside the Scheme boundary, no further ground investigation or assessment is deemed to be required with regard to the potential risks posed from the soils at CL045 to human health, surface water or groundwater. | No further assessment or ground investigation is considered to be required |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| CL052 - Former Gravel Pit (1926 - 1961) | 3 | Very low to low risks. | Located 440m from the proposed road alignment. | No works proposed CL052 (as it is located outside/bordering the Scheme boundary).<br><br>No works planned within 50m of CL052. | No, due to very low to low baseline risk and distance from the proposed road alignment. Furthermore, no works planned within the potential contaminated site or within 50m. | - | No proposed construction activity is planned to take place within CL052, or within 50m of CL052. Based on this, the very low to low baseline risk, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL052 to human health, surface water or groundwater. | No further assessment or ground investigation is considered to be required |
| CL056 - MA Motors and recovery - Motor Garage | 4 | Very low to moderate/low risks. | Located 390m from the proposed road alignment to the north. | No works proposed within CL056 (as it is located outside of the Scheme boundary).<br><br>Should the northern substation be required (currently it is not), a power cable will be installed during MW within the trackway immediately south CL056. | No, due to distance from the proposed road alignment. Furthermore, no works planned within the potential contaminated site or within 50m. | - | No proposed construction activity is planned to take place within CL056, or within 50m of CL056. Based on this, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL056 to human health, surface water or groundwater. | No further assessment or ground investigation is considered to be required<br><br>However, should the northern substation be required, ground investigation within the area of the proposed substation is recommended to be undertaken to assess if there is a risk posed from this off site source to the proposed development which includes risk to human health and controlled waters. |
| CL059 - Industrial Repairs and Servicing (Reconditioning Gears) | 3 | Very low to moderate/low risks. | Located 120m from the proposed road alignment | No works proposed within CL059 (as it is located outside of the Scheme boundary).No works proposed within 50m of the potential contaminated site. | No, due to distance from the proposed road alignment. Furthermore, no works planned within the potential contaminated site or within 50m. | - | No proposed construction activity is planned to take place within CL056, or within 50m of CL059. Based on this, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL059 to human health, surface water or groundwater. | No further assessment or ground investigation is considered to be required |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| CL061 - Electricity Sub Station | 4 | Very low to moderate/low risks. | Located 360m from the proposed road alignment. | No works proposed within CL061 (as it is located outside of the Scheme boundary).<br><br>Closest works are immediately east and south:<br><br>MW – Currently not confirmed whether substation to be upgraded in order to provide power to the eastern portal/tunnel. | No, due to distance from the proposed road alignment. Furthermore, no works planned within the potential contaminated site or within 50m. | - | No proposed construction activity is confirmed planned to take place within CL061, or within 50m of CL061. Based on this, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL061 to human health, surface water or groundwater. | No further assessment or ground investigation is considered to be required.<br>However, should the substation upgrade be required, ground investigation within the area of the proposed substation is recommended to be undertaken to assess if there is a risk posed from this source to the proposed development which includes risk to human health and controlled waters. |
| CL066 - Depot and Warehousing (Minton Distribution Park) | 3 | Very low to moderate/low risks. | Located 400m from the proposed road alignment | No works proposed within CL066 (as it is located outside of the Scheme boundary).<br><br>No works are proposed within 50m CL066 | No, due to distance from the proposed road alignment. Furthermore, no works planned within CL066 or within 50m. | - | No proposed construction activity is planned to take place within CL066, or within 50m of CL066. Based on this, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL066 to human health, surface water or groundwater | No further assessment or ground investigation is considered to be required |
| CL071 - Coop Filling Station | 4 | Very low to moderate risks. | Located 510m from the proposed road alignment (eastern-most extent near Allington Track) | No works proposed within CL071 (as it is located outside of the Scheme boundary).<br><br>No works are proposed within 50m of the CL071. | No, due to distance from the proposed road alignment (eastern-most extent). Furthermore, no works planned within the potential contaminated site or within 50m. | - | No proposed construction activity is planned to take place within CL071, or within 50m of CL071. Based on this, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL071 to human health, surface water or groundwater | No further assessment or ground investigation is considered to be required |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| CL081 - Electricity Sub Station | 4 | Very low to moderate/low risks. | Located 450m from the proposed road alignment. | Currently no works proposed within CL081 as the northern electricity substation is not planned to be used as part of the Scheme. However, this is not confirmed, and should it be required, the electricity substation is likely to be upgraded. | No, due to distance from the proposed road alignment (eastern-most extent). Furthermore, no works planned within CL081 or within 50m. | - | No proposed construction activity is planned to take place within CL081, or within 50m of CL081. Based on this, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL081 to human health, surface water or groundwater. | No further assessment or ground investigation is considered to be required<br><br>However, should the northern substation be required to be upgraded, ground investigation within the area of the proposed substation is recommended to be undertaken to assess if there is a risk posed from to human health and controlled waters. |
| CL082 - Sewage Works | 4 | Very low to moderate/low risks. | Located 570m from the proposed road alignment. | No works proposed within CL082 (as it is located outside of the Scheme boundary).<br><br>See above in CL081 regarding the northern electricity substation. | No, due to distance from the proposed road alignment (eastern-most extent). Furthermore, no works planned within the potential contaminated site or within 50m. | - | No proposed construction activity is planned to take place within CL082, or within 50m of CL081. Based on this, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL082 to human health, surface water or groundwater. | No further assessment or ground investigation is considered to be required<br><br>However, should the northern substation be required, ground investigation within the area of the proposed substation is recommended to be undertaken to assess if there is a risk posed from this off site source to the proposed development which includes risk to human health and controlled waters. |
| CL091 - New Barn' - current unknown industrial activity from aerial photography | 3 | Very low to moderate/low risks. | Located 510m from the proposed road alignment (eastern-most extent near Allington Track). | No works proposed within CL091 (as it is located outside/bordering the Scheme boundary).<br><br>No works proposed within 50m of CL091. | No, due to distance from the proposed road alignment (eastern-most extent). Furthermore, no works planned within the potential contaminated site or within 50m. | - | No proposed construction activity is planned to take place within CL091, or within 50m of CL091. Based on this, the distance from the proposed road alignment and that it is located outside the Scheme boundary, no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL091 to human health, surface water or groundwater. | No further assessment or ground investigation is considered to be required |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| **No ground investigation undertaken, no planned construction activities on site but works within 50m of potential contaminated site** | | | | | | | | |
| CL063 - Former Chalk Pit (1878 - 1961) | 3 | Very low to low risks. | Located 60m from the proposed road alignment. | No works proposed within CL063 (as it is located outside of the Scheme boundary)<br><br>Closest works are approximately 45m south:<br><br>MW – Tie in of the new A303 into the existing. Embankment on north side of the A303.<br>Installation of a power cable within the A303 carriageway/verge | No, due to very low to low baseline risk. | - | No proposed construction activity is planned to take place within CL063. The closest planned construction is also likely to be minor (cable installation) or is an embankment (reducing the likelihood of disturbance to below ground soils). No further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL063 due to low and very low risks to human health or controlled waters. | No further assessment or ground investigation is required with regard to human health or controlled waters.<br><br>However, a watching brief is recommended during construction works adjacent to CL063, CL064, to enable assessment to be undertaken should any unforeseen contamination be encountered during the works that may be attributable to CL063 & C64 |
| CL064 - Precision Engineer (Engineering Services) | 4 | Very low to moderate/low risks. | Located 60m from the proposed road alignment. | No works proposed within CL064 (as it is located outside of the Scheme boundary).<br><br>Closest works are approximately 35m north:<br><br>MW – Installation of a power cable within the A303 carriageway/verge. Tie in of the new A303 into the existing A303. | No: sites to the east of the eastern extent of the proposed road alignment were not targeted by ground investigation due to limited construction works activities. CL064 located outside the Scheme. | - | No proposed construction activity is planned to take place within CL064. The closest planned construction is also likely to be minor (cable installation) and tie in of the new A303 to existing. No further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL064 to human health or controlled waters. | |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| CL105 - Former Railway Buildings and Sidings near Countess Road | 4 | Low to moderate/low risks. | Located 405m from the proposed road alignment | No works proposed within CL105 (as it is located outside/bordering the Scheme boundary). Closest works are immediately south: MW – Countess Compound: However, this should be constructed using 'no-dig' i.e. non-intrusive works. | No, due to distance from the proposed road alignment. Furthermore, no works planned within CL105. Works planned within 50m are non-intrusive. | - | No proposed construction activity is planned to take place within CL105. The closest planned construction is also likely to be non-intrusive. This, together with the distance from the proposed road alignment, indicated that no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL105 to human health or controlled waters. | No further assessment or ground investigation is required with regard to human health or controlled waters. Should any unforeseen contamination be encountered during the works that may be attributable to CL105 as part of the construction of the Countess Compound, works should cease, and assessment undertaken by a suitably qualified professional. |
| CL113 - Goods Yard - Unknown activity | 3 | Very low to moderate/low risks. | Located 370m from the proposed road alignment | No works proposed within CL113 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works would be immediately adjacent (north/east) should the northern electricity substation be required to be upgraded – see CL081. | No, due to distance from the proposed road alignment. Furthermore, no works planned within CL113 and proposed works within 50m not confirmed | - | No proposed construction activity is planned to take place within CL113. The closest planned construction is also not confirmed. This, together with the distance from the proposed road alignment no further ground investigation or assessment is deemed required with regard the potential risks posed from the soils at CL113 to human health or controlled waters. | No further assessment or ground investigation is required with regard to human health or controlled waters.<br><br>However, should the northern substation be required to be upgraded, ground investigation within the area of the proposed substation is recommended to be undertaken to assess if there is a risk posed from to human health and controlled waters to the development from this off site source. |
| **No ground investigation undertaken; construction activities planned on the potential contaminated site** | | | | | | | | |
| CL055 - Railway Land (historic engine sheds, buildings, tanks, and sidings) (1926) | 4 | Very low to moderate/low risks. | Located 300m from the proposed road alignment to the north | MW – Installation of a power cable in the trackway alignment (under AMR) south of the substation. Presumably trenching but to be confirmed. | No, due to distance from the proposed road alignment. | - | Given the minimal main works taking place (installation of power cable via trenching) , the distance from the proposed road alignment and the generally low concentrations of soil contaminants encountered across Area 4 and the Scheme it is considered that no further assessment or ground investigation is required. The baseline CSM of very low to moderate/low with regard to human health and controlled waters remains valid.<br><br>During construction the CEMP should be followed and | No further assessment or ground investigation is required with regard to human health or controlled waters.<br><br>However, a watching brief is recommended during construction works at CL055 to enable assessment to be undertaken should any unforeseen contamination be encountered during the works that may be attributable to CL055. |

| Name and reference | Site rating* | Baseline CSM risk outcome to receptors** | Distance from the proposed road alignment *** | Planned construction activity | Ground investigation and chemical testing data available | Outcome of GQRA, Stage 1 Tier 2 assessment | Comments | Additional ground investigation recommended |
|---|---|---|---|---|---|---|---|---|
| CL057 - Former SR Bulford Extension Railway (1924 - 1937) | 4 | | Located 210m from the proposed road alignment to the east. | See CL055, CL058, CL105, CL113, as CL057 overlaps with all of these potential contaminated sites and therefore, the planned construction activities will be the same. | No, due to distance from the proposed road alignment. | - | if unforeseen contamination is identified appropriate assessment and mitigation should be undertaken to assess the risk posed to human health and controlled waters. | No further assessment or ground investigation is required with regard to human health or controlled waters. However, a watching brief is recommended during construction works at CL057 to enable assessment to be undertaken should any unforeseen contamination be encountered during the works that may be attributable to this off-site source. |
| CL058 - Cuttings potentially associated with SR Bulford Extension Railway - potentially infilled | 4 | | Located 15m from the proposed road alignment to the east. | MW – Tie in of the new A303 into the existing. Embankment on north side of the A303. Installation of a power cable within the existing A303 carriageway/verge. | No: sites to the east of the eastern extent of the proposed road alignment were not targeted by ground investigation due to limited construction works activities. | - | Given the minimal main works taking place, the works proposed also include an embankment which will reduce disturbance of below ground soils and the generally low concentrations of soil contaminants encountered across Area 4 and the Scheme it is considered that no further assessment or ground investigation is required. The baseline CSM of very low to moderate/low with regard to human health and controlled waters remains valid.<br><br>During construction the CEMP should be followed and if unforeseen contamination is identified appropriate assessment and mitigation should be undertaken to assess the risk posed to human health and controlled waters.. | No further assessment or ground investigation is required with regard to human health or controlled waters.<br><br>However, a watching brief is recommended during construction works at CL058 to enable assessment to be undertaken should any unforeseen contamination be encountered during the works that may be attributable to CL058. |

**As defined in the ES.*
***Only the receptors that were identified as having moderate/low risk and above have been identified specifically in the table.*
****In relation to the proposed road alignment itself (not the Scheme boundary).*
*No further ground investigation or further assessment required are highlighted in green.*
*Ground investigation recommended of further assessment required highlighted in yellow or amber depending on outcome of GQRA.*
*Outcome of GQRA is acceptable this is highlighted in green.*
*Outcome of GQRA is uncertain this is highlighted in yellow.*
*Outcome of GQRA is potentially unacceptable, this is highlighted in amber.*

# Abbreviations List

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|---|---|
| AER | Archaeological Excavation and Recording |
| AMR | Archaeological Monitoring and Recording |
| BGS | British Geological Society |
| CEMP | Construction Environmental Management Plan |
| CLEA | Contaminated Land Exposure Assessment |
| CSM | Conceptual Site Models |
| DCO | Development Consent Order |
| DfT | Department for Transport |
| DQRA | Detailed Quantitative Risk Assessment |
| DWS | Drinking Water Standards |
| EC | Evaluation Criteria |
| EIA | Environmental Impact Assessment |
| EQS | Environmental Quality Standards |
| ES | Environmental Statement |
| GIR | Ground Investigation Report |
| GQRA | Generic Quantitative Risk Assessment |
| GRO | Gasoline Range Organics |
| HI | Hazard Index |
| HQ | Hazard Quotients |
| LCRM | Land Contamination Risk Management |
| m bgl | meters below ground level |
| mg/kg | milligrams per kilogram |
| mg/l | milligrams per litre |
| MW | Main Works |
| NHBC | National House Building Council |
| NMU | non-motorised user |

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|---|---|
| NNR | National Nature Reserve |
| NSIP | Nationally Significant Infrastructure Projects |
| NVZ | Nitrate Vulnerable Zone |
| OEMP | Outline Environmental Management Plan |
| PAH | Polycyclic Aromatic Hydrocarbons |
| PCB | Polychlorinated Biphenyls |
| PMA | Private Means of Access |
| PRoW | Public Right of Way |
| PW | Preliminary Works |
| RTM | Remedial Targets Methodology |
| SAC | Special Area of Conservation |
| SMR | Strip, Map and Record |
| SOM | Soil Organic Matter |
| SSEN | Scottish and Southern Electricity Networks |
| SSSI | Site of Special Scientific Interest |
| SPA | Special Protected Area |
| SPZ | Source Protection Zones |
| SVOC | Semi-volatile Organic Compounds |
| TOC | Total Organic Carbon |
| TPH | Total Petroleum Hydrocarbons |
| VOC | Volatile Organic Compounds |
| WFD | Water Framework Directive |
| WHS | World Heritage Site |

# Glossary

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| Baseline conditions | The environment as it appears (or would appear) immediately prior to the implementation of the project together with any known or foreseeable future changes that will take place before completion of the project. |
| Biodiversity | The biological diversity of the earth's living resources. The total range of variability among systems and organisms at the following levels of organisation: bioregional, landscape, ecosystem, habitat, communities, species, populations, individuals, genes and the structural and functional relationships within and between these different levels. |
| Construction Environmental Management Plan | A project specific plan developed to ensure that appropriate environmental management practices are followed during the construction phase of a project. |
| Chainage | An imaginary line used to measure distance, often corresponding to the centre of a straight road. |
| Cutting | An earthwork to establish the road foundations (along with embankments), where the road is cut into the landscape, providing potential for visual screening and noise attenuation. |
| Department for Transport | Government department responsible for the transport network in England, and for aspects of the transport network in the devolved administrations. |
| Development Consent Order | The means of applying for consent to undertake a NSIP. NSIPs include, for example, major energy and transport projects. |
| Environmental Impact Assessment | A process by which information about environmental effects of a proposed development is collected, assessed, and used to inform decision making. For certain projects, EIA is a statutory requirement. |
| Embankment | An earthwork to establish the road foundations (along with cuttings), where material is built up on either side of the road, providing potential for visual screening and noise attenuation. |
| Environmental Statement | A document produced in accordance with the EIA Directive as transposed into UK law by the EIA Regulations to report the results of an EIA. |

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| Mitigation | Measures including any process, activity, or design to avoid, reduce, remedy, or compensate for negative environmental impacts or effects of a development. |
| Nationally Significant Infrastructure Projects | NSIP are large scale developments such as certain new harbours, power generating stations (including wind farms), highways developments and electricity transmission lines, which require a type of consent known as 'development consent' under procedures governed by the Planning Act 2008 (and amended by the Localism Act 2011). |
| Outline Environmental Management Plan | The OEMP identifies environmental mitigation measures and has been used to inform the EIA. It defines those environmental commitments and actions which will be implemented (within the REAC). It includes a brief scheme description, identifies the roles and responsibilities of those who will be responsible for managing and reporting the construction phase environmental aspects. The OEMP will be used as a basis for the contractor's development of a CEMP and Handover Environmental Management Plan (HEMP). |
| Pathway | A route by which a receptor is or could be affected by a contaminant. |
| Principal aquifer | These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer. |
| Receptor | Something that could be adversely affected by a contaminant, for example a person, controlled waters, an organism, an ecosystem, or Part 2A receptors such as buildings, crops, or animals. |
| Secondary A aquifer | These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers. |
| Secondary B aquifer | These are predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons, and weathering. These are generally the water-bearing parts of the former non-aquifers. |

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| Source | A contaminant or pollutant that is in, on or under the land and that has the potential to cause harm or pollution. |
| Source Protection Zones | SPZ show the risk of contamination from any activities that might cause pollution to groundwater sources such as wells, boreholes and springs used for public water supplies. The closer the activity, the greater the risk. SPZs can comprise of up to three main zones (inner, outer, and total catchment). A fourth zone of special interest can also occasionally be applied to a groundwater source. |
| Water Framework Directive | The WFD introduced a new system for monitoring and classifying the quality of surface and ground waters. The Directive requires that Environmental Objectives be set for all surface waters and groundwater to enable them to achieve Good Ecological Potential/Status by a defined date. |
| World Heritage Site | A site inscribed by UNESCO because of its Outstanding Universal Value under the terms of the UNESCO World Heritage Convention. |

# References


[1] Highways England, A303 Amesbury to Berwick Down - Stage 4 Groundwater Monitoring 2018 - 2020 Conceptual Model Review HE551506-AMW-EWE-SW_GN_000_ZZ-RP-WR-0104.

[2] Highways England, “A303 Amesbury to Berwick Down, 6.1 Environmental Statement,” October 2018.

[3] Environment Agency, “Contaminated Land Report (CLR11) Model Procedures for the Management of Land Contamination,” 2004 (now superseded).

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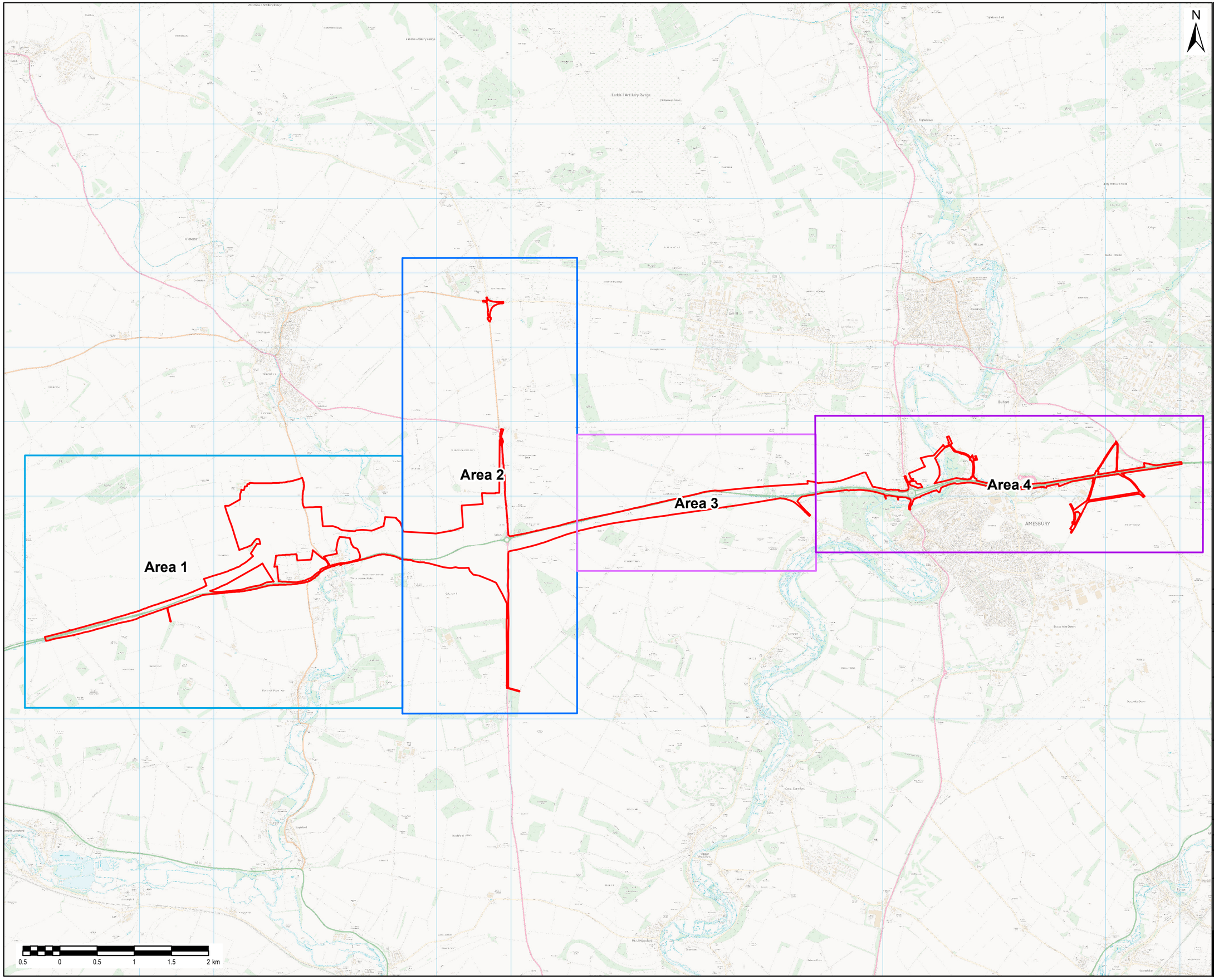
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# Appendices

# Appendix A Figures




NOTES / LEGEND

Scheme Boundary

**Contamination Assessment Areas**

- Area 1
- Area 2
- Area 3
- Area 4

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Purpose of issue: CONTAMINATION ASSESSMENT

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Drawing Title: FIGURE 1 - SCHEME OVERVIEW

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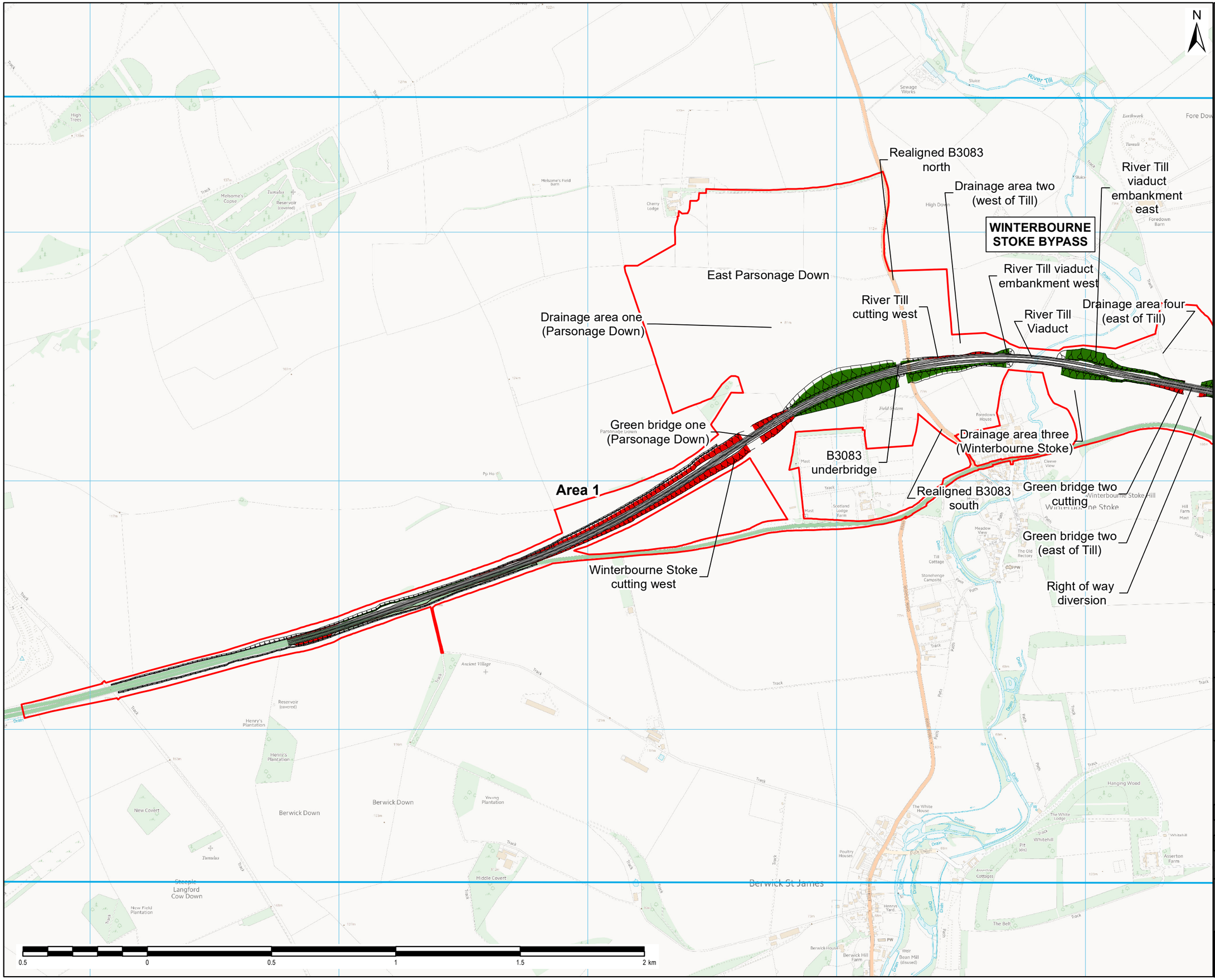
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NOTES / LEGEND

- Scheme Boundary
- Scheme Wide Route Alignment

**Landscaping**

- Cut
- Fill

**Contamination Assessment Areas**

- Area 1

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ROLLESTONE JUNCTION

LONGBARROW JUNCTION

Area 1

Area 2

Area 3

Realigned B3083 north

Drainage area two (west of Till)

River Till viaduct embankment east

WINTERBOURNE STOKE BYPASS

River Till viaduct embankment west

River Till cutting west

River Till Viaduct

Drainage area four (east of Till)

Drainage area three (Winterbourne Stoke)

B3083 underbridge

Realigned B3083 south

Green bridge two cutting

Green bridge two (east of Till)

Right of way diversion

Realigned A360 north

Longbarrow cutting west

Longbarrow dumbbell north

New Longbarrow junction eastern diverge

New Longbarrow junction eastern merge

Green bridge four (WHS cutting)

Longbarrow cutting east

Cutting approach to western portal

Longbarrow cutting central

New Longbarrow junction western diverge

Link to Winterbourne Stoke

Drainage area five (Longbarrow junction)

New Longbarrow junction western merge

Green bridge three (Longbarrow junction)

Realigned A360 south

Longbarrow dumbbell south

Proposed corridor for utility connection

Existing A303 converted to byway

Western portal

TUNNEL

Canopy approach to western portal

Link between 11 and 12 under consideration

0.5 0 0.5 1 1.5 2 km

N

NOTES / LEGEND

- Scheme Boundary
- Scheme Wide Route Alignment

**Landscaping**

- Cut
- Fill

**Contamination Assessment Areas**

- Area 1
- Area 2
- Area 3

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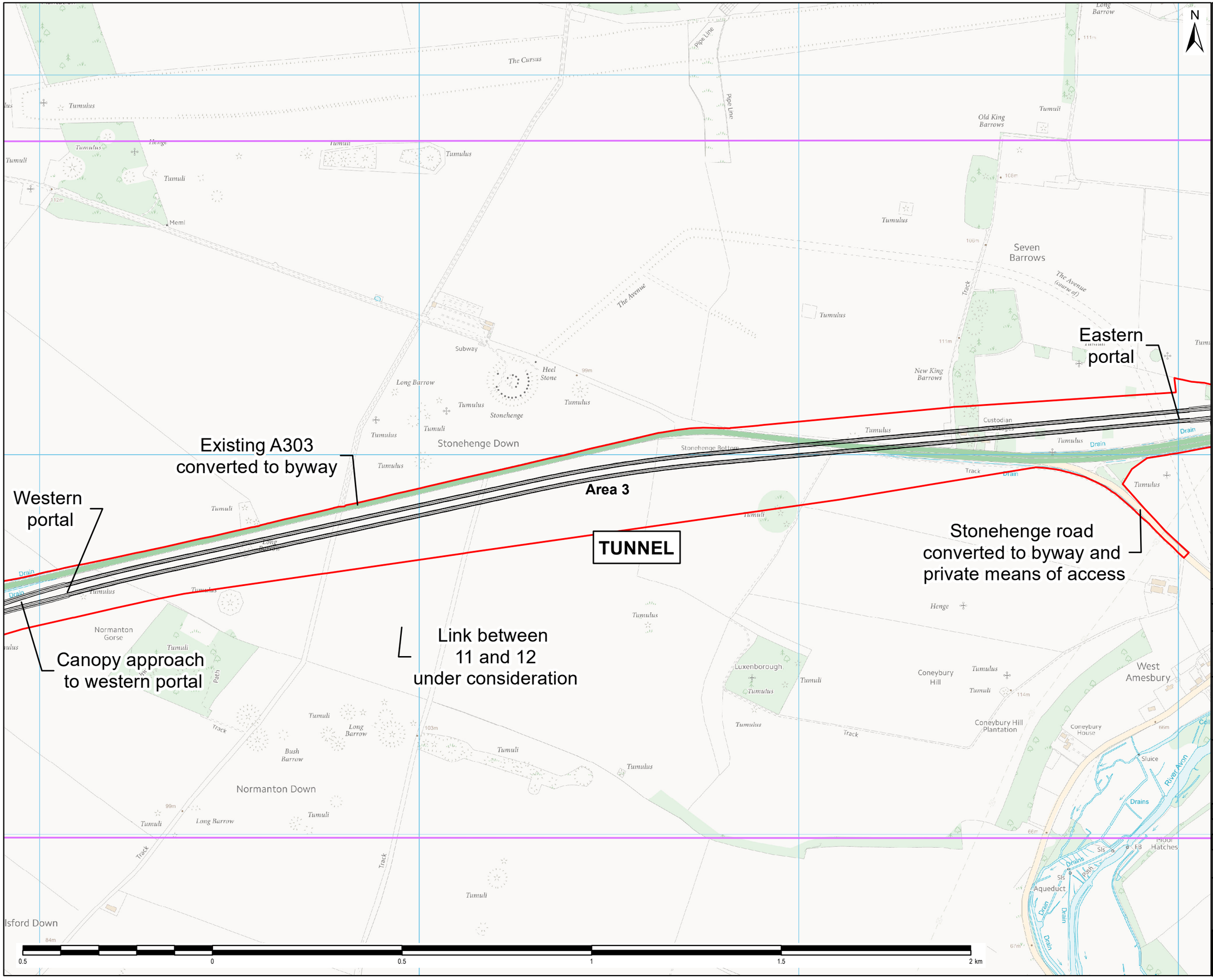
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NOTES / LEGEND

- Scheme Boundary
- Scheme Wide Route Alignment

**Contamination Assessment Areas**

- Area 3

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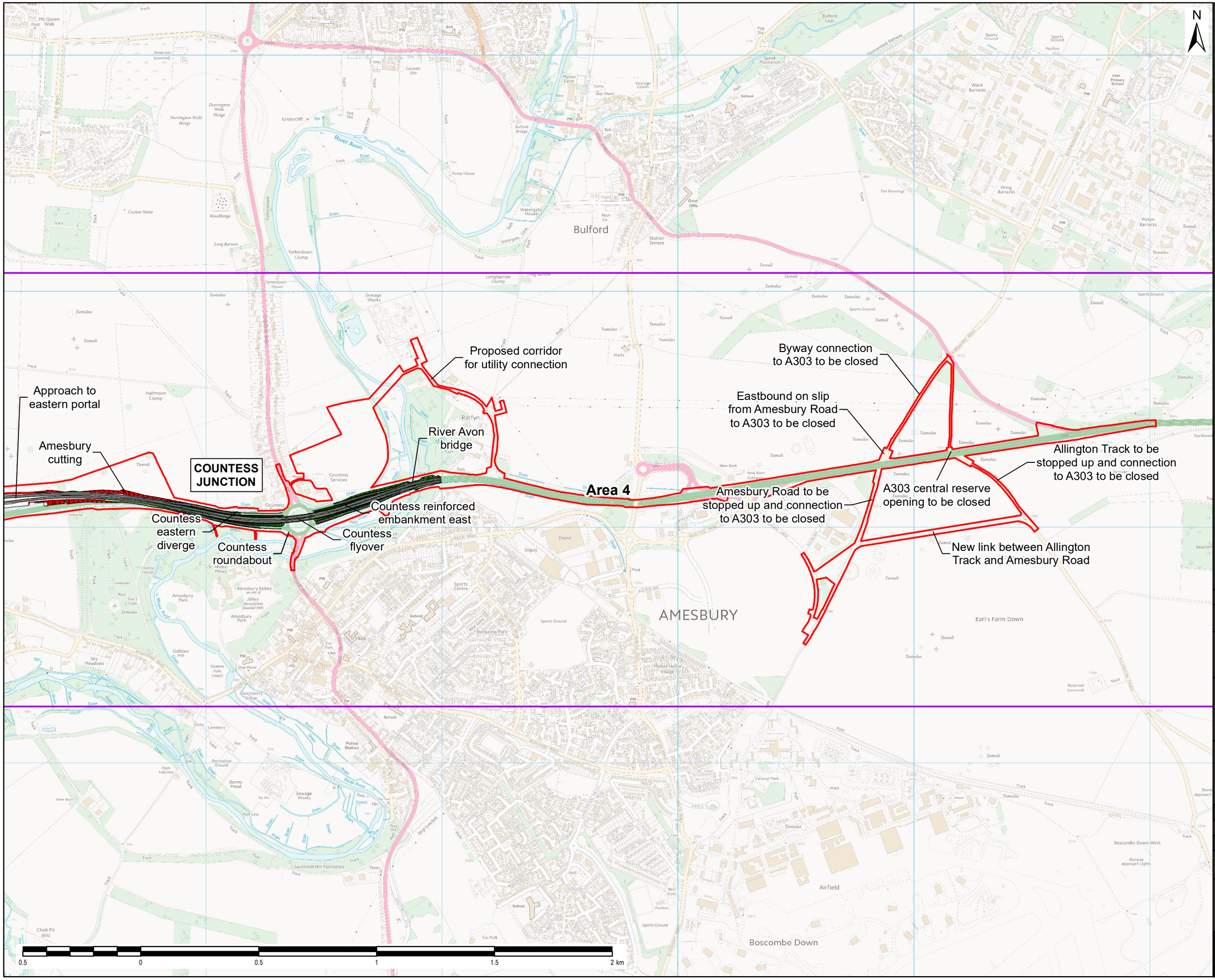
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NOTES / LEGEND

- Scheme Boundary
- Scheme Wide Route Alignment

**Landscaping**

- Cut
- Fill

**Contamination Assessment Areas**

- Area 4

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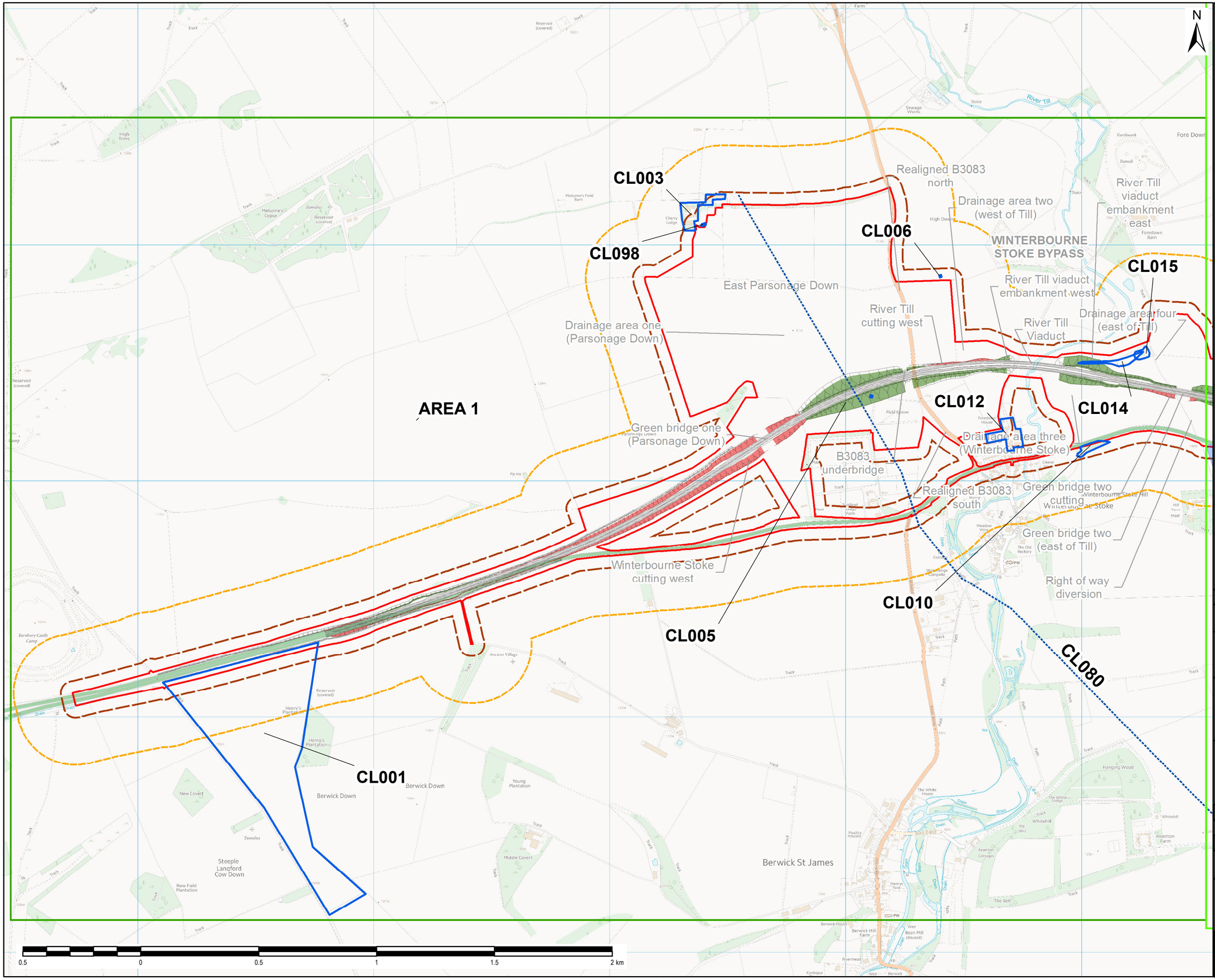
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NOTES / LEGEND

- Scheme Boundary
- 50m Scheme Buffer
- 250m Scheme Buffer
- Scheme Wide Route Alignment
- Potential Linear Contaminated Site (Baseline Rating 3-4)
- Potential Contaminated Site (Baseline Rating 3-4)
- Potential Contaminated Site (Baseline Rating 5)

**Contamination Assessment Areas**

- Area 1
- Area 2

**Landscaping**

- Cut
- Fill

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CL028
CL033
ROLLESTONE JUNCTION
Maddington
Shrewton
Rollestone
Hemanton
Larkhill Artillery Range
Larkhill
Durrington Down
AREA 2
AREA 3
CL025
CL035
LONGBARROW JUNCTION
Winterbourne Stoke Down
Realigned A360 north
New Longbarrow junction eastern merge
Existing A303 converted to byway
Western portal
TUNNEL
Stonehe converted to private mea
CL003
CL098
CL006
CL015
WINTERBOURNE STOKE BYPASS
Realigned B3083 north
Drainage area two (west of Till)
River Till viaduct embankment east
East Parsonage Down
River Till viaduct embankment west
River Till cutting west
River Till Viaduct
Drainage area four (east of Till)
Drainage area one (Parsonage Down)
Longbarrow cutting west
Longbarrow dumbbell north
New Longbarrow junction eastern diverge
CL021
Green bridge four (WHS cutting)
Longbarrow cutting east
Link between 11 and 12 under consideration
CL039
Canopy approach to western portal
CL036
CL012
CL014
Drainage area three (Winterbourne Stoke)
Green bridge one (Parsonage Down)
B3083 underbridge
Realigned B3083 south
Green bridge two cutting
Green bridge two (east of Till)
Right of way diversion
Winterbourne Stoke cutting west
CL016
Cutting approach to western portal
New Longbarrow junction western diverge
Longbarrow cutting centre
Link to Winterbourne Stoke
Drainage area five (Longbarrow junction)
CL020
CL034
Realigned A360 south
New Longbarrow junction western merge
Longbarrow dumbbell south
CL010
CL005
CL080
Green bridge three (Longbarrow junction)
Proposed corridor for utility connection
CL018
CL023
Berwick St James
Wilsford
Lake Down
Normanton Down
Barrow Down
Fore Down
Horse Down
Knighton Down
Stonehenge Down
Durrington Down
Lake Barrow
Wilsford Down
0.5 0 0.5 1 1.5 2 km

N

NOTES / LEGEND

- Scheme Boundary
- 50m Scheme Buffer
- 250m Scheme Buffer
- Scheme Wide Route Alignment
- Potential Linear Contaminated Site (Baseline Rating 3-4)
- Potential Contaminated Site (Baseline Rating 3-4)
- Potential Contaminated Site (Baseline Rating 5)

**Contamination Assessment Areas**

- Area 1
- Area 2
- Area 3

**Landscaping**

- Cut
- Fill

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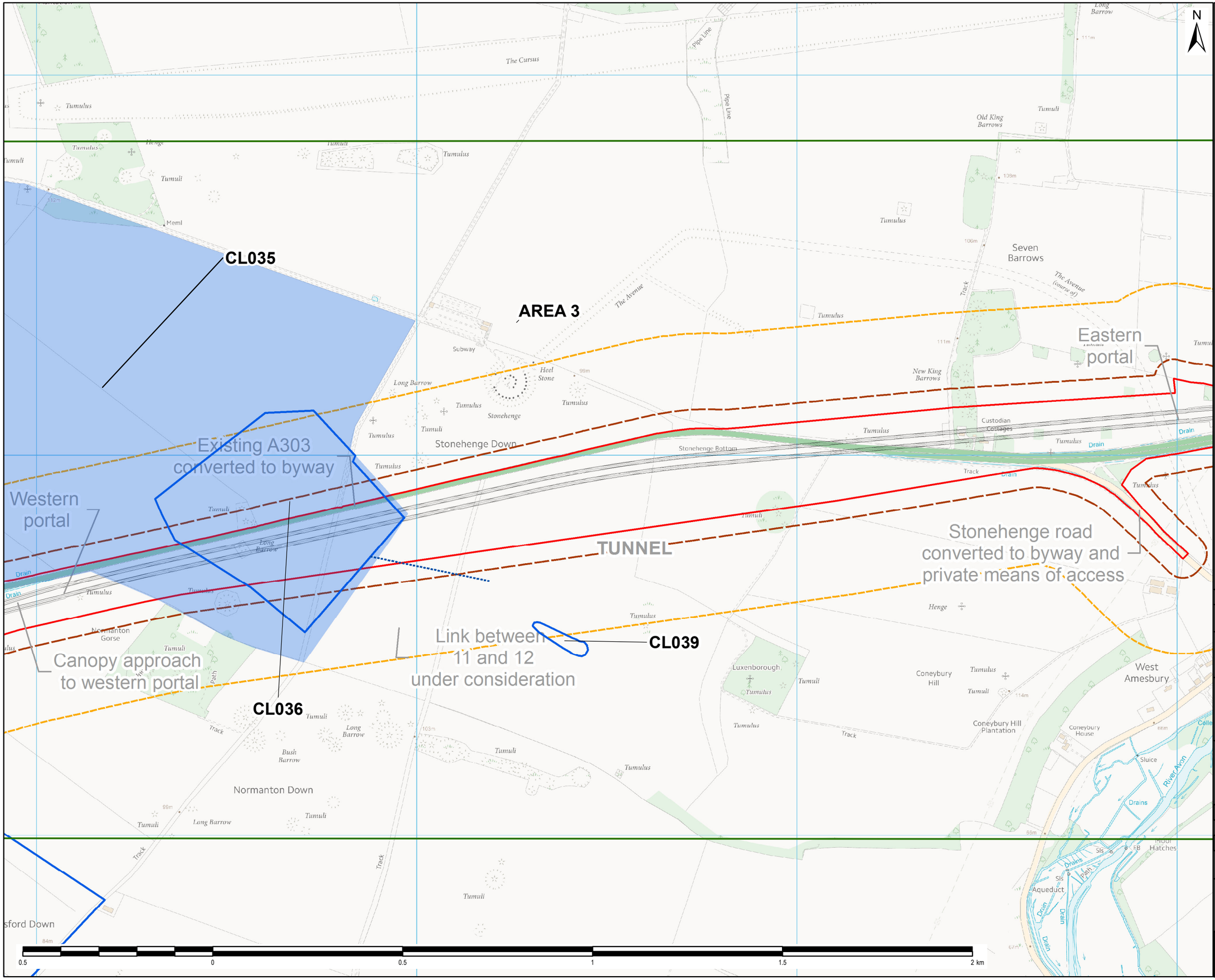
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NOTES / LEGEND

- Scheme Boundary
- 50m Scheme Buffer
- 250m Scheme Buffer
- Scheme Wide Route Alignment
- Potential Linear Contaminated Site (Baseline Rating 3-4)
- Potential Contaminated Site (Baseline Rating 3-4)
- Potential Contaminated Site (Baseline Rating 5)

**Contamination Assessment Areas**

- Area 3

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Drawing Title: FIGURE 3C AREA 3 - POTENTIAL CONTAMINATED SITES

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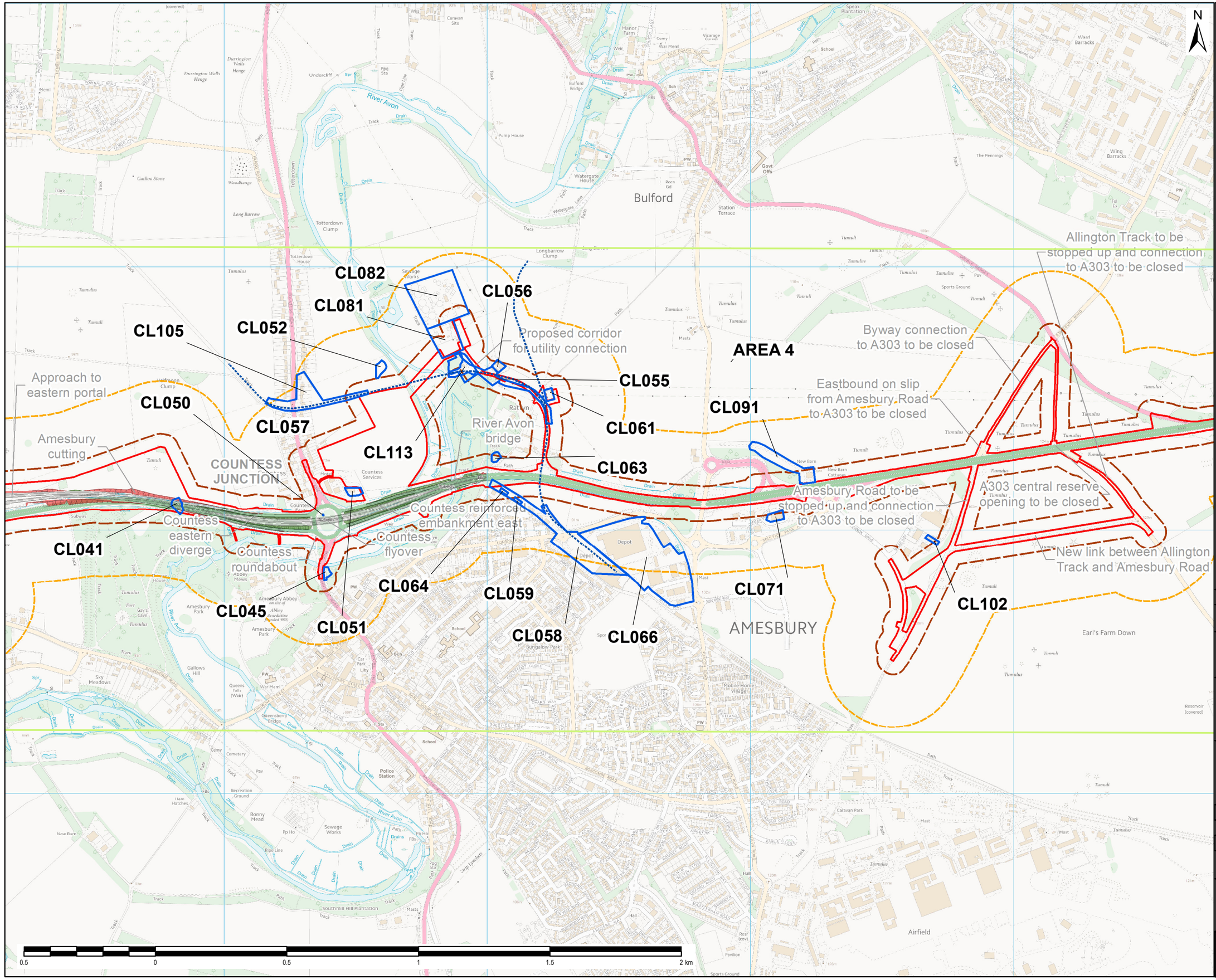
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NOTES / LEGEND

- Scheme Boundary
- 50m Scheme Buffer
- 250m Scheme Buffer
- Scheme Wide Route Alignment
- Potential Linear Contaminated Site (Baseline Rating 3-4)
- Potential Contaminated Site (Baseline Rating 3-4)

**Contamination Assessment Areas**

- Area 4

**Landscaping**

- Cut
- Fill

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Drawing Title: FIGURE 3D AREA 4 - POTENTIAL CONTAMINATED SITES

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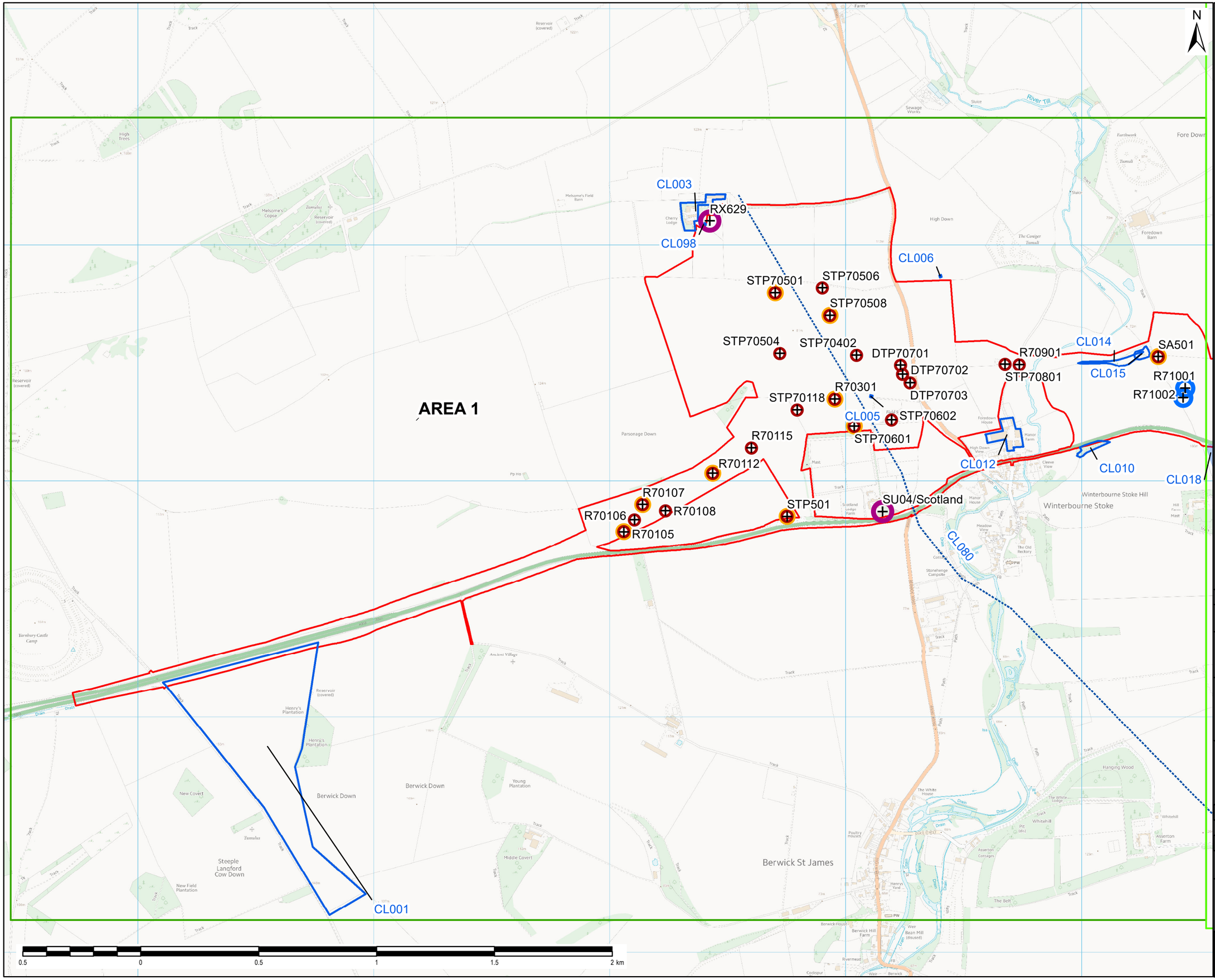
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NOTES / LEGEND

- Scheme Boundary
- Locations with chemical testing available
- Exploratory hole with soils chemical testing
- Exploratory hole with soils leachate chemical testing
- Exploratory hole with groundwater chemical testing
- Exploratory hole undergoing groundwater monitoring programme
- Potential Linear Land Use Source (Baseline Rating 3-4)
- Potential Land Use Source (Baseline Rating 3-4)
- Potential Land Use Source (Baseline Rating 5)

**Contamination Assessment Areas**

- Area 1
- Area 2

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Drawing Title: FIGURE 4A - AREA 1 LOCATIONS WITH CHEMICAL TESTING

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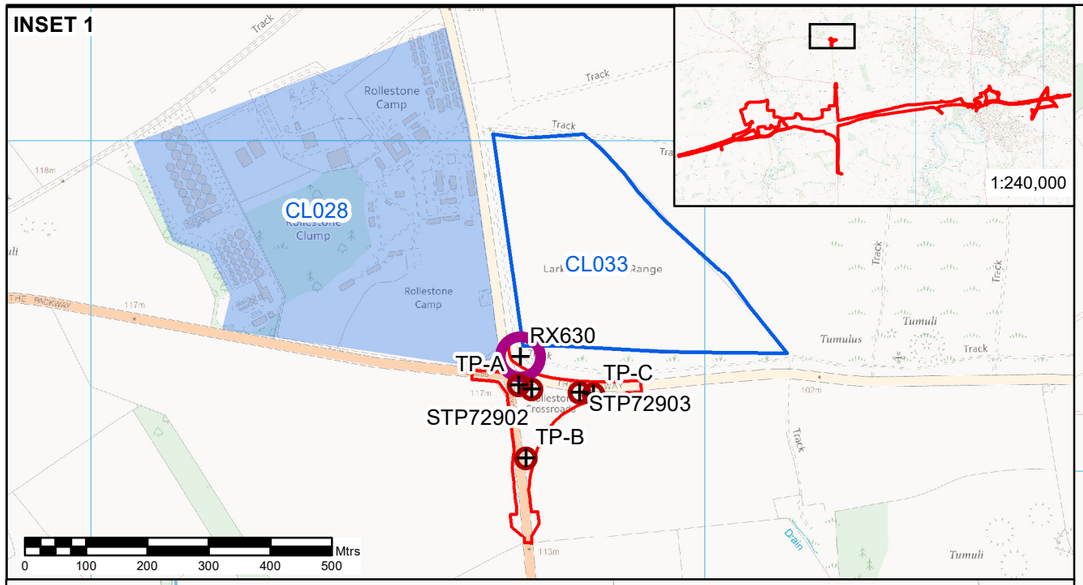
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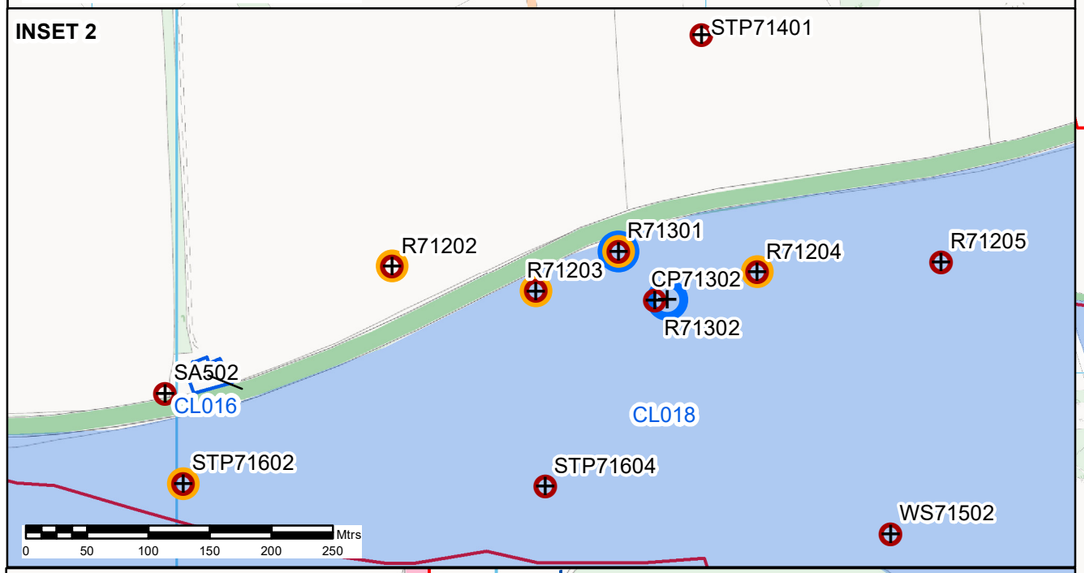
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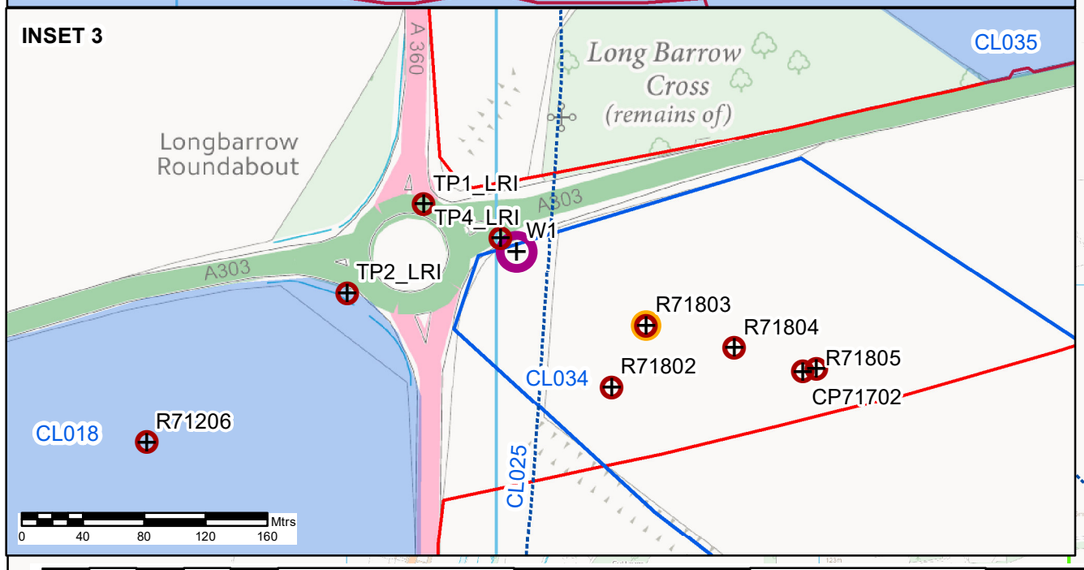
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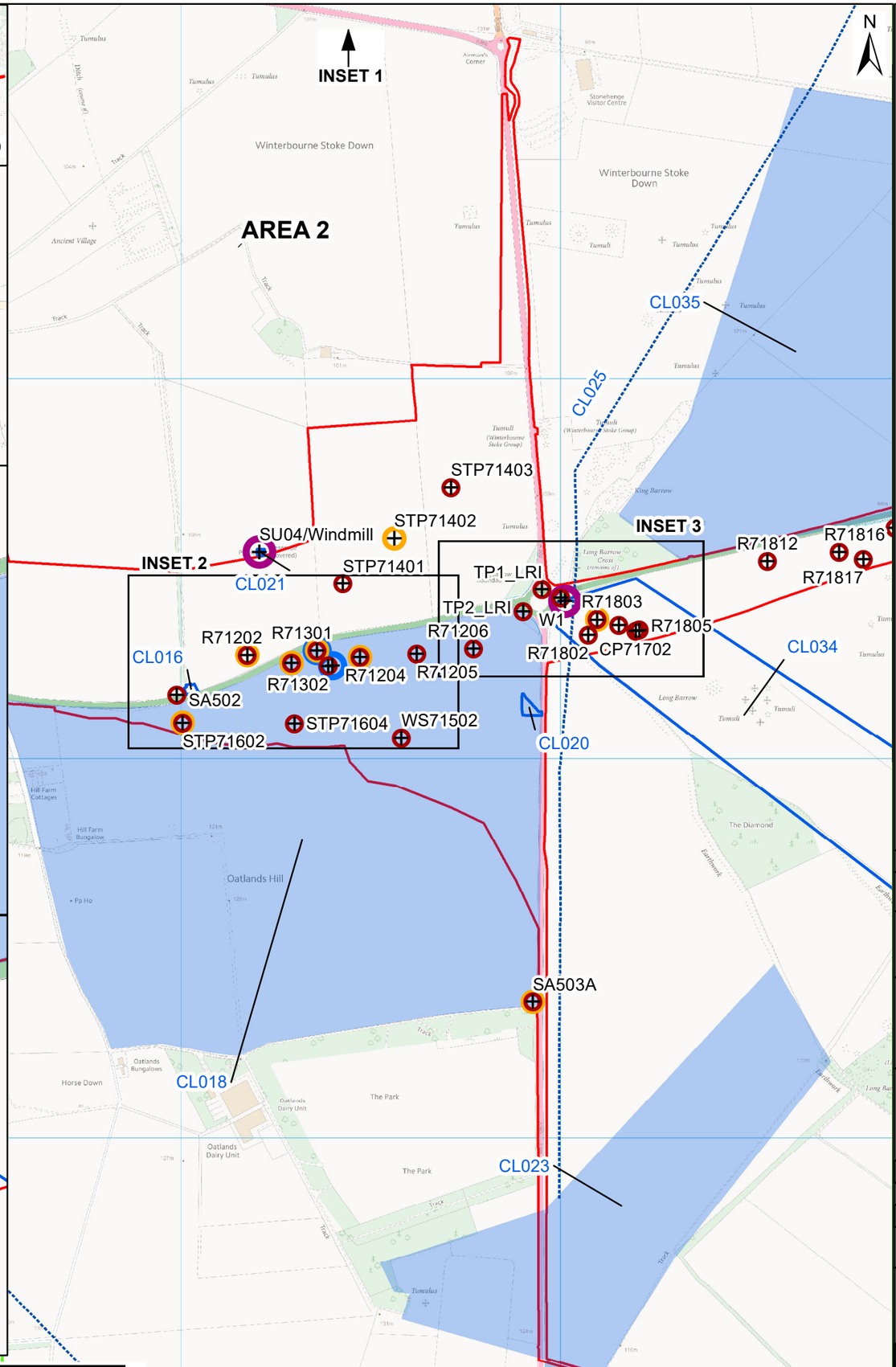












NOTES / LEGEND

- Scheme Boundary
- Locations with chemical testing available
- Exploratory hole with soils chemical testing
- Exploratory hole with soils leachate chemical testing
- Exploratory hole with groundwater chemical testing
- Exploratory hole undergoing groundwater monitoring programme
- Potential Linear Land Use Source (Baseline Rating 3-4)
- Potential Land Use Source (Baseline Rating 3-4)
- Potential Land Use Source (Baseline Rating 5)

**Contamination Assessment Areas**

- Area 1
- Area 2

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Purpose of issue: CONTAMINATION ASSESSMENT

Client: Highways England

Working on behalf of: highways england

Project Title: A303 AMESBURY TO BERWICK DOWN

Drawing Title: FIGURE 4B - AREA 2 LOCATIONS WITH CHEMICAL TESTING

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AREA 3

CL035
CL036
CL037
CL039
CL034

R71821
RX634
R71901
R71902
R71903
R71904
R71905
R71917
P1
R608
R607
R602
RZ603
R615
P2
RX633
R71908
R614
R616
R13
R16
R506A
P510
R72001
R71915
PX506
P505
PX505A
P502B
R503B
SA504

Stonehenge Down
Normanton Down
Normanton Gorse
Seven Barrows
Old King Barrows
New King Barrows
Coneybury Hill
Coneybury Hill Plantation
Luxenborough
West Amesbury
Custodian Cottages
Coneybury House
Stonehenge
Heel Stone
The Avenue
The Cursus
Long Barrow
Bush Barrow
Subway
Track
Drain
Pipe Line
River Avon
Sluice
Drains
Aqueduct
Moor Hatches

0.5 0 0.5 1 1.5 2 km

NOTES / LEGEND

- Scheme Boundary
- Locations with chemical testing available
- Exploratory hole with soils chemical testing
- Exploratory hole with soils leachate chemical testing
- Exploratory hole with groundwater chemical testing
- Exploratory hole undergoing groundwater monitoring programme
- Potential Linear Land Use Source (Baseline Rating 3-4)
- Potential Land Use Source (Baseline Rating 3-4)
- Potential Land Use Source (Baseline Rating 5)

**Contamination Assessment Areas**

- Area 3

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Drawing Title: FIGURE 4C - AREA 3 LOCATIONS WITH CHEMICAL TESTING

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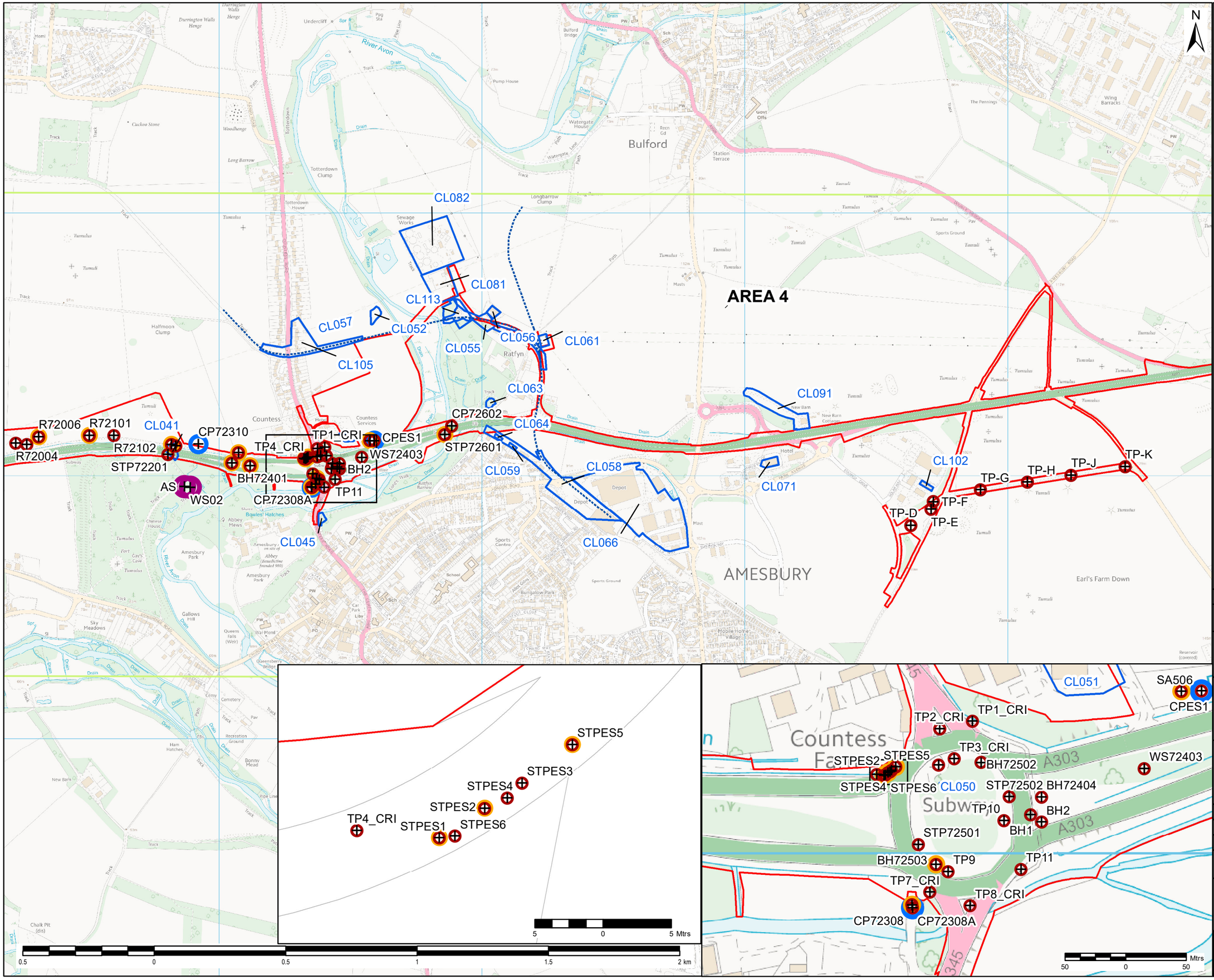
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NOTES / LEGEND

- Scheme Boundary
- Locations with chemical testing available
- Exploratory hole with soils chemical testing
- Exploratory hole with soils leachate chemical testing
- Exploratory hole with groundwater chemical testing
- Exploratory hole undergoing groundwater monitoring programme
- Potential Linear Land Use Source (Baseline Rating 3-4)
- Potential Land Use Source (Baseline Rating 3-4)

**Contamination Assessment Areas**

- Area 4

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Project Title: A303 AMESBURY TO BERWICK DOWN

Drawing Title: FIGURE 4D - AREA 4 LOCATIONS WITH CHEMICAL TESTING

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# Appendix B Screening Assessment and Conceptual Site Model Tables

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# 10 Contaminated Land Assessment Methodology and Detailed Risk Assessment

## 10.1 Methodology Tables

### Table 10.1.1: Proximity Zone Definition

| Zone No | Definition |
|---|---|
| Zone 1 | All land on or within the footprint of the line and including a 10m margin either side, and including side shoots such as road realignments, spoil borrow or storage areas etc. |
| Zone 2 | All land within 50m of the edge of Zone 1 land. |
| Zone 3 | All land from between 50 and 250m from the edge of Zone 1 land. |

### Table 10.1.2: Potentially Contaminative Land Uses

| Class | Generic Description | Typical Land Uses |
|---|---|---|
| Class 1 | Low risk of potential contamination, or less hazardous chemicals in use | Farms (ancillary buildings and areas for storing chemicals, fuel etc.) |
| | | Warehouses |
| | | Goods yards |
| | | Hospitals |
| | | Builders yards |
| | | Retail and business parks |
| Class 2 | Medium risk of potential contamination, more hazardous chemicals in possible use | Engineering workshops |
| | | Railways/ disused railway lines |
| | | Brick works |
| | | Dry cleaners (retail) |
| | | Sewage works |
| | | Former clay pits and quarries |
| | | Cement/ asphalt works |
| | | Car breakers |
| | | Garage workshops |
| | | Waste transfer facilities |
| | | Paper works |
| | | Power stations |
| | | Glass works |
| | | Timber treatment works |
| | | Foot and mouth burials |
| | | Metal manufacturing and plating |
| | | Depots |
| | | Scrap yards |
| Class 3 | High risk of potential contamination, hazardous chemicals likely to be present | Gas and coke works |
| | | Landfills and historic landfills |
| | | Petrol filling stations |

| Class | Generic Description | Typical Land Uses |
|---|---|---|
| | | Oil depots |
| | | Iron and steel works |
| | | Historical foundries |
| | | Chemical works |

**Table 10.1.3: Site Rating Method**

| Potentially Contaminative Land Use Class | Proximity to Route | Vertical Alignment | Site Rating |
|---|---|---|---|
| Class 1 Low Risk | Zone 1 | Viaduct / Embankment | 2 |
| | | Cutting / At Grade / Cut and Cover Tunnel | 3 |
| | | Bored Tunnel | 0 |
| | Zone 2 | Viaduct / Embankment | 1 |
| | | Cutting / At Grade / Cut and Cover Tunnel | 2 |
| | | Bored Tunnel | 0 |
| | Zone 3 | Viaduct / Embankment | 0 |
| | | Cutting / At Grade / Cut and Cover Tunnel | 1 |
| | | Bored Tunnel | 0 |
| Class 2 Medium Risk | Zone 1 | Viaduct / Embankment | 3 |
| | | Cutting / At Grade / Cut and Cover Tunnel | 4 |
| | | Bored Tunnel | 2 |
| | Zone 2 | Viaduct / Embankment | 2 |
| | | Cutting / At Grade / Cut and Cover Tunnel | 3 |
| | | Bored Tunnel | 2 |
| | Zone 3 | Viaduct / Embankment | 1 |
| | | Cutting / At Grade / Cut and Cover Tunnel | 2 |
| | | Bored Tunnel | 1 |
| Class 3 High Risk | Zone 1 | Viaduct / Embankment | 4 |
| | | Cutting / At Grade / Cut and Cover Tunnel | 5 |
| | | Bored Tunnel | 3 |
| | Zone 2 | Viaduct / Embankment | 3 |
| | | Cutting / At Grade / Cut and Cover Tunnel | 4 |
| | | Bored Tunnel | 3 |
| | Zone 3 | Viaduct / Embankment | 2 |
| | | Cutting / At Grade / Cut and Cover Tunnel | 3 |
| | | Bored Tunnel | 2 |

**Table 10.1.4: Summary of sites scoped out of Detailed Risk Assessment based on baseline Site Rating 1 and 2**

| Ref Number | Site Description | Location / Orientation | Proximity Zone | Land Use Class | Vertical Alignment | Baseline Site Rating |
|---|---|---|---|---|---|---|
| CL002 | Possible Infilled Ground - former Covered Reservoir | South of western area of the Scheme, near the Pig Farm (CL001). | 3 | 2 | Grade | 2 |
| CL004 | Scotland Farm | North of the current A303, west of Winterbourne Stoke. | 3 | 1 | Embankment | 0 |
| CL008 | Unspecified Pit (1886 - 1957) | In Winterbourne Stoke. | 3 | 2 | Embankment | 1 |
| CL009 | Winterbourne Stoke Filling Station | North of the current A303, within Winterbourne Stoke. | 3 | 3 | Embankment | 2 |
| CL011 | Electricity Sub Station | In Winterbourne Stoke. | 3 | 2 | Embankment | 1 |
| CL013 | Former Cutting (1878) | North of the current A303, west of the River Till. | 3 | 2 | Viaduct | 1 |
| CL017 | Hill Farm | West of Former RAF Oatlands Hill (CL018). | 3 | 1 | Cutting | 1 |
| CL024 | Historic Engine House (1926) | East of the A360, south of Former RAF Lake Down (CL023). | 3 | 2 | Cutting | 2 |
| CL026 | Unspecified Pit (1879) | Within vicinity of existing Longbarrow Cross Roads. | 3 | 2 | Cutting | 2 |
| CL030 | Truck Repair Shop | Adjacent to Rollestone Camp (CL028). | 3 | 2 | At Grade | 2 |
| CL038 | Former RAF Stonehenge Sewage Works (disused 1924, removed 1970) | South of the Stonehenge Monument. | 3 | 2 | At grade/Bored Tunnel | 2 |
| CL040 | Cuttings and Unspecified Pits (1874 - 1974) | East of the Stonehenge Monument. | 3 | 2 | Bored Tunnel | 1 |
| CL042 | Partially Infilled Pond at Amesbury Park (1899 - 1961) | Within Amesbury Park. | 3 | 2 | At Grade/Cutting | 2 |
| CL043 | Electricity Sub Station | Amesbury, within vicinity of Amesbury Abbey. | 3 | 2 | Embankment | 1 |
| CL044 | Countess Farm | North west of Countess Roundabout. | 1 | 1 | Embankment | 2 |
| CL046 | Amesbury Filling Station | East of The Centre (road) in Amesbury. | 3 | 3 | Embankment | 2 |
| CL047 | Unspecified Pit (1878) | East of A345 in Amesbury, near Amesbury Filling Station (CL046). | 3 | 2 | Embankment | 1 |

| Ref Number | Site Description | Location / Orientation | Proximity Zone | Land Use Class | Vertical Alignment | Baseline Site Rating |
|---|---|---|---|---|---|---|
| CL049 | Electricity Sub Station | Amesbury, west of Amesbury Filling Station (CL046). | 3 | 2 | Embankment | 1 |
| CL053 | Electricity Sub Station | North of Countess Services. | 2 | 2 | Embankment | 2 |
| CL054 | Electricity Sub Station | In Amesbury. | 3 | 2 | Embankment | 1 |
| CL060 | Electricity Sub Station | Amesbury, in vicinity of Reconditioning Gears (CL059). | 3 | 2 | At Grade | 2 |
| CL061 | Electricity Sub Station | In Ratfyn. | 1 | 2 | Cutting | 4 |
| CL062 | Ratfyn Farm and Tanks | In Ratfyn. | 2 | 1 | Cutting | 2 |
| CL065 | Garage (Vehicle Repair, Testing and Servicing) | South of the Scheme In Amesbury. | 3 | 2 | At Grade | 2 |
| CL068 | Unnamed Farm | North east of Amesbury. | 3 | 1 | At Grade | 1 |
| CL069 | Painting Contractors | South of the Scheme in Amesbury. | 3 | 2 | At Grade | 2 |
| CL070 | Laundry | South of the Scheme in Amesbury. | 3 | 2 | At Grade | 2 |
| CL072 | Unnamed Farm | South of the Scheme, west of West Amesbury, east of Stonehenge Rd | 3 | 1 | At Grade | 1 |
| CL073 | West Amesbury Farm | South of the Scheme, west of West Amesbury, west of Stonehenge Rd | 2 | 1 | At Grade | 2 |
| CL078 | Manor Farm | North of the Scheme, north of Larkhill Road | 3 | 1 | At Grade | 1 |
| CL079 | Muller Plc (Warehouse distribution) | South of the Scheme in eastern Amesbury. | 2 | 1 | At Grade | 2 |
| CL089 | Tank (1926) | South east of the eastern extent of the Scheme, within Amesbury. | 3 | 1 | At Grade | 1 |
| CL090 | Tank (1926) | Eastern extent of scheme | 2 | 1 | At Grade | 2 |
| CL092 | Unknown Filled Ground (pit, quarry, etc) | Northern area of scheme, SE of Rolleston Crossroads | 3 | 2 | At Grade | 2 |
| CL097 | Sub Station (1977) | To east of Rollestone camp | 3 | 2 | At grade | 2 |
| CL100 | Unknown Filled Ground (pond, pit, quarry, etc) - 1961 | Eastern extent of scheme | 3 | 2 | At Grade | 2 |
| CL101 | Unknown Filled Ground (pond, pit, quarry, etc) - 1961 | Eastern extent of scheme | 3 | 2 | At Grade | 2 |

| Ref Number | Site Description | Location / Orientation | Proximity Zone | Land Use Class | Vertical Alignment | Baseline Site Rating |
|---|---|---|---|---|---|---|
| CL103 | Concrete Works | Eastern extent of scheme | 3 | 2 | At Grade | 2 |
| CL108 | Reservoir | Ratfyn | 3 | 2 | At grade | 2 |
| CL109 | Historical Garages | North of Amesbury | 3 | 2 | At grade | 2 |
| CL110 | Historical Garages | North of Amesbury | 3 | 2 | At grade | 2 |
| CL111 | Unspecified Pit | Stonehenge Bottom | 1 | 2 | Bored Tunnel | 2 |
| CL112 | Former Garage (now residential and shops including dry cleaners) | North of Amesbury | 3 | 2 | Cutting | 2 |

**Table 10.1.5: Summary of sites scoped in for Detailed Risk Assessment based on baseline Site Rating (baseline score 3, 4 and 5)**

| Ref Number | Site Description | Location / Orientation | Proximity Zone | Land Use Class | Vertical Alignment | Baseline Site Rating |
|---|---|---|---|---|---|---|
| CL001 | Pig Farm (Berwick Down) | South east of Yarnbury Castle Fort. | 1 | 1 | Grade | 3 |
| CL003 | Cherry Lodge Farm (formerly Homanton Farm) | West of the B3083. | 1 | 1 | Cutting | 3 |
| CL005 | Pumping House | Northwest of Winterbourne Stoke, north of Scotland Farm. | 1 | 2 | Embankment | 3 |
| CL006 | Possible Infilled Ground - former Covered Reservoir | North of the current A303, west of the River Till. | 2 | 2 | Cutting | 3 |
| CL010 | Winterbourne Stoke Chalk Pit (1879 - 1926) | East of Winterbourne Stoke. | 1 | 2 | Embankment | 3 |
| CL012 | Manor Farm | In Winterbourne Stoke. | 1 | 1 | Cutting | 3 |
| CL014 | Unspecified Pit (1878 - 1926). Adjacent/ within Area of Fill (Demolition Rubble) (CL015) | North of the current A303, east of the River Till. | 1 | 2 | Cutting | 4 |
| CL015 | Area of Fill (Demolition Rubble) | Northeast of Winterbourne Stoke, east of the River Till. | 1 | 2 | Cutting | 4 |
| CL016 | Historic Barn and Above Ground Tank (1877 - 1961) | West of existing Longbarrow Cross Roads, north of the current A303. | 1 | 1 | Cutting | 3 |
| CL018 | Former RAF Oatlands Hill (1941 - | South of the current A303, west of the | 1 | 3 | Cutting/At Grade | 5 |

| Ref Number | Site Description | Location / Orientation | Proximity Zone | Land Use Class | Vertical Alignment | Baseline Site Rating |
|---|---|---|---|---|---|---|
| | 1946) | A360. | | | | |
| CL020 | Infilled and unspecified Pits and Ground Workings (1879 - 1957) | Within RAF Oatlands Hill (CL018). | 1 | 2 | Cutting | 4 |
| CL021 | Pump House (and associated former Covered Reservoir - potentially infilled) | Northwest of existing Longbarrow Cross Roads. | 1 | 2 | Cutting/Embankment | 4 |
| CL023 | Former RAF Lake Down (1917 - 1924) | Along the A360, south of the Scheme. | 1 | 3 | Cutting | 5 |
| CL025 | Former Larkhill Military Light Railway (Dismantled) | East of the existing Longbarrow Cross Roads. | 1 | 2 | Cutting | 4 |
| CL028 | Rollestone Camp | West of the A360, north of B3086. | 1 | 3 | At Grade | 5 |
| CL033 | Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range | Along The Packway Road. | 2 | 3 | At Grade | 4 |
| CL034 | Pig Farm (Longbarrow Roundabout) | South east of existing Longbarrow Cross Roads. | 1 | 1 | Cutting | 3 |
| CL035 | Former RAF Stonehenge (1917 - 1921) | West of the Stonehenge Monument. | 1 | 3 | Cutting/ Bored Tunnel | 5 |
| CL036 | Former Stonehenge Pedigree Stock Farm (1924 - 1926) | Within the footprint of the Former RAF Stonehenge (CL035). | 1 | 1 | At grade/Bored Tunnel | 3 |
| CL037 | Former Sewage Outfall (disused 1924, removed 1970) | South of the Stonehenge Monument. | 1 | 2 | At grade/Bored Tunnel | 4 |
| CL039 | Disused Tip (1974) | South of the Stonehenge Monument. | 3 | 3 | At grade/Bored Tunnel | 3 |
| CL041 | Former Quarry (1899 - 1961) | North west of Amesbury. | 1 | 2 | At Grade/Cutting | 4 |
| CL045 | Former Gas Works (1879 - 1901) and Ground Works (1961) | West Amesbury, adjacent (east) of the A345 (Countess Road). | 1 | 3 | Embankment | 4 |
| CL050 | Pumping Station | Within vicinity of Countess Roundabout. | 1 | 2 | Embankment | 3 |
| CL051 | Countess Filling Station | North east of Countess Roundabout. | 1 | 3 | Embankment | 4 |
| CL052 | Former Gravel Pit (1926 - 1961) | North of Countess Services. | 2 | 2 | Cutting/Grade | 3 |
| CL055 | Railway Land (historic engine | In Ratfyn. | 1 | 2 | Cutting/Grade | 4 |

| Ref Number | Site Description | Location / Orientation | Proximity Zone | Land Use Class | Vertical Alignment | Baseline Site Rating |
|---|---|---|---|---|---|---|
| | sheds, buildings, tanks and sidings (1926) | | | | | |
| CL056 | MA Motors and recovery - Motor Garage | North of Ratfyn. | 1 | 2 | Cutting/Grade | 4 |
| CL057 | Former SR Bulford Extension Railway (1924 - 1937) | East of Ratfyn and Amesbury. | 1 | 2 | Cutting/Grade | 4 |
| CL058 | Cuttings potentially associated with SR Bulford Extention Railway - potentially infilled | East of Amesbury. | 1 | 2 | At Grade | 4 |
| CL059 | Industrial Repairs and Servicing (Reconditioning Gears) | South east of the eastern extent of the Scheme, within Amesbury. | 2 | 2 | At Grade | 3 |
| CL061 | Electricity Sub Station | In Ratfyn. | 1 | 2 | Cutting | 4 |
| CL063 | Former Chalk Pit (1878 - 1961) | Near Ratfyn Farm (CL062). | 2 | 2 | At Grade | 3 |
| CL064 | Precision Engineer (Engineering Services) | South of the Scheme In Amesbury. | 1 | 2 | At Grade | 4 |
| CL066 | Depot and Warehousing (Minton Distribution Park) | South of the Scheme In Amesbury. | 2 | 2 | At Grade | 3 |
| CL071 | Coop Filling Station | South of the Scheme in eastern Amesbury. | 2 | 3 | At Grade | 4 |
| CL080 | High Pressure Esso Oil Pipeline | West of Winterbourne Stoke. | 1 | 3 | Embankment | 4 |
| CL081 | Electricity Sub Station | North west of Ratfyn | 1 | 2 | Cutting | 4 |
| CL082 | Sewage Works | North west of Ratfyn | 1 | 2 | Cutting | 4 |
| CL088 | Electricity Sub Station | East of Countess Road, north of Amesbury | 2 | 2 | At Grade | 3 |
| CL091 | New Barn' - current unknown industrial activity from aerial photography | Eastern extent of scheme | 1 | 1 | At Grade | 3 |
| CL098 | Unknown Filled Ground (pit, quarry, etc) | West of the B3083, within cherry lodge farm | 1 | 2 | Cutting | 4 |
| CL102 | Motor Works | Eastern extent of scheme | 2 | 2 | At Grade | 3 |
| CL105 | Former Railway Buildings and | East and West of Countess Rd | 1 | 2 | Cutting | 4 |

| Ref Number | Site Description | Location / Orientation | Proximity Zone | Land Use Class | Vertical Alignment | Baseline Site Rating |
|---|---|---|---|---|---|---|
| | Sidings near Countess Road | | | | | |
| CL113 | Goods Yard - Unknown activity | Ratfyn | 1 | 1 | Cutting | 3 |

## 10.2 Detailed Risk Assessment - Esso Oil Pipeline

**Table 60.1.6: Detailed risk assessment for the High Pressure Esso Oil Pipeline in the study area**

| | | | | | | |
|---|---|---|---|---|---|---|
| Site ID (IDS) | CL080 | | | | | |
| Site group | High Pressure Esso Oil Pipeline located within the Proposed Scheme boundary and the Study Area | | | | | |
| Site title (Site ID) and land use class | High Pressure Esso Oil Pipeline - (CL080) – Class 3. | | | | | |
| Receptors | | | | | | |
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| High Pressure Esso Oil Pipeline (CL080) | Off Site Residential | Bedrock - Principal Aquifer | River Till | Crosses Parsonage Down SSSI north of Proposed Scheme<br>SSSI – River Till | Off Site Residential | None |
| Post-construction development description | | | | | | |
| CL080 – Remains in-situ beneath embankment leading to B3082 underbridge – Winterbourne Stoke Bypass | | | | | | |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, organic compounds, inorganic compounds, hydrocarbons, PAH, solvents, fuel oils, alkalis. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial/public open space<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, organic compounds, inorganic compounds, hydrocarbons, PAH, solvents, fuel oils, alkalis. | Off-site users – residential<br><br>Cherry Lodge Farm | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Low | Medium | Moderate/low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Low | Medium | Moderate/low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users - commercial/public open space<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater – Principal Aquifer | Vertical and lateral migration. | Low | Severe | Moderate |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, organic compounds, inorganic compounds, hydrocarbons, PAH, solvents, fuel oils, alkalis. | Controlled waters – surface waters<br>River Till | Groundwater migration, direct run-off from site. | Low | Severe | Moderate |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | Low | Severe | Moderate |
| | | Aggressive Ground Conditions | N/A | N/A | N/A |
| | Ecological/geological designations<br>Parsonage Down SSSI<br>SSSI – River Till | Vertical and lateral migration, direct contact. | Low | Severe | Moderate |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no residential properties on the site, no commercial properties on or adjacent to the site, no ground gas sources on or adjacent to the site. | | | | | |

## 10.3 Detailed Risk Assessment – Military Land

**Table 10.1.7: Detailed risk assessment for the Military Land located within the Proposed Scheme boundary**

| | |
|---|---|
| Site ID (IDS) | CL018, CL023, CL035 |
| Site group | Military land located within the Proposed Scheme |
| Site title (Site ID) and land use class | Former RAF Oatlands Hill (1941 to 1946) - (CL018) Class 3.<br><br>Former RAF Lake Down (1917 to 1924) - (CL023) Class 3.<br><br>Former RAF Stonehenge (1917 to 1921) - (CL035) Class 3. |

| Receptors | | | | | | |
|---|---|---|---|---|---|---|
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Former RAF Oatlands Hill (CL018) | None | Bedrock Principal Aquifer | None | None | None | Agricultural Land |
| Former RAF Lake Down (CL023) | Off-site Residential and Commercial | Bedrock Principal Aquifer<br><br>Superficial Secondary Undifferentiated Aquifer | None | None | Off-site Residential and Commercial properties | Agricultural Land |
| Former RAF Stonehenge (CL035) | On-site Public open space<br>Off Site Public open space | Bedrock Principal Aquifer | None | None | None | Agricultural Land |

| Post-construction development description |
|---|
| CL018 – Longbarrow Junction (including Longbarrow cutting east, west and central, Green Bridge three and Longbarrow dumbbell south)<br>CL023 – South of Longbarrow Junction<br>CL035 – Tunnel / western portal |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users – Public open space<br><br>(Stonehenge) | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Medium | Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Off-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users - commercial/public open space<br><br>Public open space (Stonehenge) | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely to low | Medium | Low to Moderate/low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater – Principal Aquifer, Secondary Undifferentiated Aquifer | Vertical and lateral migration. | Unlikely | Medium | Low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Controlled waters – surface waters<br><br>None | Groundwater migration, direct run-off from site. | N/A | N/A | N/A |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | N/A | N/A | N/A |
| | | Aggressive Ground Conditions | N/A | N/A | N/A |
| | Ecological/geological designations | Vertical and lateral migration, direct contact. | N/A | N/A | N/A |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no residential properties on the site, no commercial properties on or adjacent to the site, no ground gas sources on or adjacent to the site. There are no surface water courses within vicinity of the sites. | | | | | |

**Table 70.1.8: Detailed risk assessment for the Military Land located outside the Proposed Scheme boundary but within the Study Area**

| | |
|---|---|
| Site ID (IDS) | CL028, CL033 |
| Site group | Military Land located outside the Proposed Scheme boundary but within the Study Area |
| Site title (Site ID) and land use class | Rollestone Camp – (CL028) Class 3<br><br>Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range – (CL033) Class 3 |

| Receptors | | | | | | |
|---|---|---|---|---|---|---|
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Rollestone Camp (CL028) | On-site<br>Residential<br>Commercial<br><br>Off-site<br>Residential<br>Commercial / Open space | Bedrock - Principal Aquifer | None | SSSI – Salisbury Plain | On-site<br>Residential and commercial properties<br><br>Off-Site<br>Residential and commercial properties | Agricultural land adjacent to the north and south |
| Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range (CL033) | On-site<br>Open Space<br><br>Off-site<br>Residential | Bedrock - Principal Aquifer | None | SSSI – Salisbury Plain | On-site<br>None<br><br>Off-ite<br>Residential properties | Agricultural land to north south and east. |

| Post-construction development description |
|---|
| None. Sites are located outside of the land required for the construction of the Proposed Scheme. Adjacent to Rollestone Junction |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | On-site users – residential<br><br>Rollestone Camp | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Medium | Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial/public open space<br><br>Truck repair company (CL030)<br>Artillery Range | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Mild to Medium | Very low to Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild to Medium | Very low to Low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Off-site users – residential<br><br>Rollestone Camp and Residential property | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Medium | Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users - commercial/public open space<br><br>Artillery Range | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Mild | Very Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater – Principal Aquifer | Vertical and lateral migration. | Unlikely | Medium | Low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Controlled waters – surface waters<br><br>None | Groundwater migration, direct run-off from site. | N/A | N/A | N/A |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | Unlikely | Medium | Low |
| | | Aggressive Ground Conditions | N/A | N/A | N/A |
| | Ecological/geological designations<br>SSSI – Salisbury Plain | Vertical and lateral migration, direct contact. | Low | Mild | Low |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no ground gas sources on or adjacent to the site. There are also no surface water courses within vicinity of the sites. | | | | | |

## 10.4 Detailed Risk Assessment – Petrol Filling Stations

**Table 80.1.9: Detailed risk assessment for the Petrol Filling Stations located outside the Proposed Scheme boundary but within the Study Area**

| | |
|---|---|
| Site ID (IDS) | CL051, CL071 |
| Site group | Petrol Filling Stations located outside the Proposed Scheme boundary but within the Study Area |
| Site title (Site ID) and land use class | Countess Filling Station – (CL051) Class 3.<br><br>Co-operative Filling Station – (CL071) Class 3. |

| Receptors | | | | | | |
|---|---|---|---|---|---|---|
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Countess Filling Station (CL051) | On-site Commercial<br><br>Off-site Hotel and Restaurant (retail / commercial) | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | Drain leading to River Avon adjacent to southern boundary of site | None (River Avon – SSSI) | On-site buildings and infrastructure<br><br>Off Site Hotel and Restaurant | None |
| Co-operative Filling Station (CL071) | On-site Commercial<br><br>Off-site Hotel and Restaurant (retail / commercial) | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | None | None | On-site buildings and infrastructure<br><br>Off-site Hotel and Restaurant | None |

| Post-construction development description |
|---|
| None. Sites are located outside of the Proposed Scheme.<br>CL051 - Adjacent to Countess Junction comprising proposed Countess Flyover and Countess Roundabout modifications.<br>CL071 – Adjacent to area of A303 which is part of proposed Scheme but no proposed redevelopment taking place. |

Baseline CSM and Qualitative Risk Assessment: Petrol Filling Stations located outside the Proposed Scheme boundary but within the Study Area

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial<br><br>Petrol Filling Station | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Low to likely | Medium | Moderate to moderate/low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Low to likely | Medium | Moderate to moderate/low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis. | Off-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users - commercial<br><br>Hotel and Restaurant (retail/commercial) | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely to low | Mild | Very Low to low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely to low | Mild | Very Low to low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater – Principal Aquifer Secondary A | Vertical and lateral migration. | Unlikely to low | Severe | Moderate/low to moderate |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis. | Controlled waters – surface waters<br><br>River Avon | Groundwater migration, direct run-off from site. | Low | Severe | Moderate |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | Low | Severe | Moderate |
| | | Aggressive Ground Conditions | Likely | Medium | Moderate |
| | Ecological/geological designations<br>SSSI – River Avon | Vertical and lateral migration, direct contact. | Low | Medium | Moderate/low |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no ground gas sources on or adjacent to the site. There are also no residential properties on site or immediate vicinity. | | | | | |

## 10.5 Detailed Risk Assessment – Former Gas Works

**Table 90.1.10: Detailed risk assessment for the Former Gas Works located outside the Proposed Scheme boundary but within the Study Area**

| | |
|---|---|
| Site ID (IDS) | CL045 |
| Site group | Former Gas Works located outside the Proposed Scheme boundary but within the Study Area |
| Site title (Site ID) and land use class | Former Gas Works (1879 - 1901) and Ground Works (1961) – (CL045) Class 3. |

| Receptors | | | | | | |
|---|---|---|---|---|---|---|
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Former Gas Works (1878 - 1922) (CL045) | On-site<br>Public open space<br><br>Off-site<br>Public open space<br>Residential | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | River Avon - adjacent to north of site | River Avon - SSSI | On-site<br>Residential property associated with Amesbury Abbey<br><br>Off-site<br>Residential properties | None |

| Post-construction development description |
|---|
| Site is located outside of the Proposed Scheme.<br>CL045 – Area south of Countess Junction / Countess Flyover - Embankment |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - Public open space<br><br>Lords Walk Park (Public open space) | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Medium | Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | Unlikely | Medium | Low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Off-site users – residential<br><br>Potential residential properties within Amesbury Abbey grounds.<br>Properties fronting Countess Road | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Medium | Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | Unlikely | Mild | Very low |
| | Off-site users - Public open space<br><br>Lords Walk Park (public open space) | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Mild | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild | Very low |
| | | Inhalation of ground gases. | Unlikely | Mild | Very low |
| | Controlled waters – groundwater –<br>Principal Aquifer<br>Secondary A Aquifer | Vertical and lateral migration. | Low | Mild to medium | Low to moderate/low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Controlled waters – surface waters<br><br>River Avon | Groundwater migration, direct run-off from site. | Low | Medium | Moderate/low |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | Unlikely | Medium | Low |
| | | Aggressive Ground Conditions | N/A | N/A | N/A |
| | Ecological/geological designations<br>SSSI – River Avon | Vertical and lateral migration, direct contact. | Low | Mild | Low |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no residential properties on site and there are no structures on site | | | | | |

## 10.6 Detailed Risk Assessment – Railway Land

**Table 100.1.11: Detailed risk assessment for the Railway Land located within the Proposed Scheme boundary**

| | |
|---|---|
| Site ID (IDS) | CL025, CL055, CL057 |
| Site group | Railway Land located within the Proposed Scheme boundary |
| Site title (Site ID) and land use class | Former Larkhill Military Light Railway (Dismantled) – (CL025) Class 2<br><br>Former Railway Land - historic engine sheds, buildings, tanks and sidings (1926) – (CL055) Class 2<br><br>Former SR Bulford Extension Railway (1924 - 1937) – (CL057) Class 2 |

| Receptors | | | | | | |
|---|---|---|---|---|---|---|
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Former Larkhill Military Light Railway (Dismantled) (CL025) | None | Bedrock - Principal Aquifer | None | None | None | Site crosses agricultural land and several roads / tracks (including the A303) |
| Former Railway Land - historic engine sheds, buildings, tanks and sidings (1926) (CL055) | On-site Commercial<br><br>Off-site Commercial and residential, public open space | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | River Avon | SSSI- River Avon | On-site Commercial properties<br><br>Off-site Commercial and residential properties | Agricultural land to the east and forested land to the west and south |
| Former SR Bulford Extension Railway (1924 - 1937) (CL057) | On-site Commercial and retail<br><br>Off-site Commercial and residential, public open space | Bedrock - Principal Aquifer<br><br>Superficial - Secondary 'A' | River Avon | SSSI- River Avon | On-site Commercial and retail<br><br>Off-site Commercial and residential | Agricultural land to the east and forested land to west and south. Potentially Infilled land <50m away from site. |
| Post-construction development description | | | | | | |

CL025 – Cutting approach to western portal

CL055 – Proposed corridor for utility connection

CL057 – Proposed corridor for utility connection and section of the A303 between Countess Junction and Amesbury Road Section to be stopped up.

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial<br><br>Goods Yard - unknown industrial activity (CL113), Tesco Supermarket | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Low | Medium | Moderate/low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | Unlikely | Medium | Low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Off-site users – residential<br><br>Residential properties including fronting Annetts Close, James Road, London Road, Beacon Close, Countess Road and at Ratfyn. | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Medium | Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | Unlikely | Mild | Very low |
| | Off-site users - commercial/public open space<br><br>Motor Workshop (CL056), Garage (CL065), electricity substations (CL061, CL081), light industry - (CL069, CL070, CL060, CL059, CL064), Public open space | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Mild | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild | Very low |
| | | Inhalation of ground gases. | Unlikely | Mild | Very low |
| | Controlled waters – groundwater – Principal Aquifer<br>Secondary A Aquifer | Vertical and lateral migration. | Low | Mild to medium | Low to moderate/low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Controlled waters – surface waters<br><br>River Avon | Groundwater migration, direct run-off from site. | Low | Medium | Moderate/low |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | Unlikely | Medium | Low |
| | | Aggressive Ground Conditions | Unlikely | Medium | Low |
| | Ecological/geological designations<br>SSSI – River Avon | Vertical and lateral migration, direct contact. | Low | Mild | Low |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no residential properties on site. | | | | | |

**Table 110.1.12: Detailed risk assessment for the Railway Land located outside the Proposed Scheme boundary but within the Study Area**

| | | | | | | |
|---|---|---|---|---|---|---|
| Site ID (IDS) | CL105 | | | | | |
| Site group | Railway Land located outside the Proposed Scheme boundary but within the Study Area | | | | | |
| Site title (Site ID) and land use class | Former Railway Buildings and Sidings near Countess Road – (CL105) Class 2. | | | | | |
| Receptors | | | | | | |
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Former Railway Buildings and Sidings near Countess Road – (CL105) | On-site Residential<br><br>Off-site Residential | Bedrock - Principal Aquifer | None | None | On-site Residential properties<br><br>Off-site Further Residential properties | Agricultural land on site, to the north, south, east and west. |
| Post-construction development description | | | | | | |
| None. Site is located outside of the land required for the construction of the Proposed Scheme. Within area of proposed Utility Corridor | | | | | | |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB. | On-site users – residential<br><br>Residential Buildings fronting Countess Road | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Low | Medium | Moderate/low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Low | Medium | Moderate/low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial/public open space<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB. | Off-site users – residential<br><br>Residential Buildings fronting Countess Road | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Medium | Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users - commercial/public open space<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater – Principal Aquifer | Vertical and lateral migration. | Low | Medium | Moderate/low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB | Controlled waters – surface waters<br><br>None | Groundwater migration, direct run-off from site. | N/A | N/A | N/A |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | N/A | N/A | N/A |
| | | Aggressive Ground Conditions | Unlikely | Medium | Low |
| | Ecological/geological designations<br><br>None | Vertical and lateral migration, direct contact. | N/A | N/A | N/A |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no commercial properties on or adjacent to the site. Also there are no sensitive watercourses or ecological/geological designated sites within or adjacent to the site. | | | | | |

## 10.7 Detailed Risk Assessment – Light Industrial Sites

**Table 120.1.13: Detailed risk assessment for the Light industrial sites located within the Proposed Scheme boundary**

| | | | | | | |
|---|---|---|---|---|---|---|
| Site ID (IDS) | CL037, CL050 | | | | | |
| Site group | Light industrial sites located within the Proposed Scheme boundary | | | | | |
| Site title (Site ID) and land use class | Former Sewage Outfall (disused 1924, removed 1970) – (CL037) Class 2<br><br>Pumping Station – (CL050) Class 2 | | | | | |
| Receptors | | | | | | |
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Former Sewage Outfall (disused 1924, removed 1970) (CL037) | None | Bedrock - Principal Aquifer | None | None | None | Former position crosses path / bridleway |
| Pumping Station (CL050) | On-site Maintenance / commercial<br><br>Off-site Commercial Residential | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | Drain leading to River Avon | River Avon SSSI | On-site Pumping station<br><br>Off-site Commercial Residential | - |
| Post-construction development description | | | | | | |
| CL037 –Tunnel<br>CL050 –Countess flyover and Countess roundabout | | | | | | |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial<br><br>Pumping station - maintenance | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Mild | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB. | Off-site users – residential<br><br>Countess Farm | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Mild | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users - commercial<br><br>Countess Farm | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Mild | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater – Principal Aquifer Secondary A Aquifer | Vertical and lateral migration. | Low | Mild | Low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB. | Controlled waters – surface waters<br><br>River Avon | Groundwater migration, direct run-off from site. | Low | Mild | Low |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | N/A | N/A | N/A |
| | | Aggressive Ground Conditions | N/A | N/A | N/A |
| | Ecological/geological designations<br><br>SSSI – River Avon | Vertical and lateral migration, direct contact. | Unlikely | Minor | Very low |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no residential properties on the site. There is also no known gas source to provide a risk to humans and or property. | | | | | |

**Table 130.1.14: Detailed risk assessment for the Light industrial sites located outside the Proposed Scheme boundary but within the Study Area**

| | |
|---|---|
| Site ID (IDS) | CL005, CL021, CL056, CL059, CL061, CL064, CL066, CL081, CL082, CL091, CL102 |
| Site group | Light Industrial sites located outside the Proposed Scheme but within the Study Area |
| Site title (Site ID) and land use class | Pumping House – (CL005) Class 2<br><br>Pump House (and associated former Covered Reservoir - potentially infilled) – (CL021) Class 2<br><br>MA Motors and recovery - Motor Garage – (CL056) Class 2<br><br>Industrial Repairs and Servicing (Reconditioning Gears) – (CL059) Class 2<br><br>Electricity Sub Station – (CL061) Class 2<br><br>Precision Engineer (Engineering Services) – (CL064) Class 2<br><br>Depot and Warehousing (Minton Distribution Park) – (CL066) Class 2<br><br>Electricity Sub Station – (CL081) Class 2<br><br>Sewage Works – (CL082) Class 2<br><br>'New Barn' - current unknown industrial activity from aerial photography – (CL091) Class 1<br><br>Motor Works – (CL102) Class 2<br><br>Goods Yard - Unknown activity – (CL113) Class 1 |
| Receptors | |

| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
|---|---|---|---|---|---|---|
| Pumping House (CL005) | On-site maintenance / commercial | Bedrock - Principal Aquifer | None | None | On-site Pumping House | |
| Pump House (and associated former Covered Reservoir - potentially infilled) (CL021) | On-site Maintenance / commercial | Bedrock - Principal Aquifer | None | None | On-site Pumping House | |
| MA Motors and recovery - Motor Garage (CL056) | On-site Commercial<br><br>Off-site Residential | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | None | None | On-site Commercial property<br><br>Off-site Electricity Substation and residential properties | |
| Industrial Repairs and Servicing Recondition Gears – (CL059) | On-site Commercial<br><br>Off-site Commercial Residential | Bedrock - Principal Aquifer | Drain leading to River Avon | None | On- site Commercial property<br><br>Off-site Light industry commercial properties Residential properties | |
| Electricity Sub Station – (CL061) | On-site maintenance / commercial | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | None | None | On-site Infrastructure - electricity substation and pylons | |
| Precision Engineer (Engineering Services) – (CL064) | On-site Commercial<br><br>Off-site Commercial | Bedrock - Principal Aquifer | Drain leading to River Avon | None | On-site Commercial property<br><br>Off-site Light industry commercial properties Residential properties | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Depot and Warehousing (Minton Distribution Park) (CL066) | On-site Commercial<br><br>Off-site Commercial / retail | Bedrock - Principal Aquifer | Drain leading to River Avon | None | On-site Commercial property<br><br>Off-site Commercial / retail properties | |
| Electricity Sub Station – (CL081) | On-site maintenance / commercial<br><br>Off-site Commercial, public open space | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | River Avon | SSSI – River Avon | On-site Infrastructure - electricity substation<br><br>Off-site Commercial property | |
| Sewage Works – (CL082) | On-site Commercial | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | None | None | On -site Commercial property<br><br>Off-site Infrastructure - electricity substation | |
| 'New Barn' - current unknown industrial activity – (CL091) | On-site Commercial | Bedrock - Principal aquifer | None | None | On -site Commercial / farm property | |
| Motor Works (CL102) | On-site Commercial<br><br>Off Site Commercial | Bedrock - Principal aquifer | None | None | On Site Commercial<br><br>Off Site Commercial | |
| Goods Yard - Unknown activity (CL113) | On-site Commercial<br><br>Off-site Commercial, public open space | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | River Avon | River Avon - SSSI | Off-site Commercial and Infrastructure - electricity substation | |
| Post-construction development description | | | | | | |
| None. Sites are located outside the proposed Scheme boundary. All locations are within areas where limited proposed works are proposed e.g, road closures, utility corridors etc. | | | | | | |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination. Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial<br><br>Pump house and electricity substations maintenance, grain production and storage facility, motor workshop/works, engineering workshop, Minton Distribution Park, sewage works, farm/warehouse site workers, goods yard | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Low | Medium | Moderate/low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Low | Medium | Moderate/low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB. | Off-site users – residential<br><br>Rollestone Camp and other residential properties | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Medium | Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users - commercial/public open space<br><br>Truck repair shop, light industry businesses /business park, supermarket, recycling centre, sewage works, warehouse distribution, motor works, public open space | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Mild | Very Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild | Very Low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater –<br><br>Principal Aquifer<br>Secondary A Aquifer | Vertical and lateral migration. | Low | Mild to medium | Low to moderate/low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB. | Controlled waters – surface waters<br><br>River Avon | Groundwater migration, direct run-off from site. | Low | Mild to medium | Low to moderate/low |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | N/A | N/A | N/A |
| | | Aggressive Ground Conditions | Low | Mild | Low |
| | Ecological/geological designations<br><br>SSSI - River Avon | Vertical and lateral migration, direct contact. | Low | Mild | Low |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no residential properties on the site. There is also no known gas source to provide a risk to humans and or property. | | | | | |

## 10.8 Detailed Risk Assessment – Infilled Land

**Table 140.1.15: Detailed risk assessment for the Infilled Land sites located within the Proposed Scheme boundary**

| | |
|---|---|
| Site ID (IDS) | CL010, CL014, CL015, CL020, CL041 |
| Site group | Infilled Land located within the Proposed Scheme |
| Site title (Site ID) and land use class | Winterbourne Stoke Chalk Pit (1879 - 1926) – (CL010) Class 2<br><br>Unspecified Pit (1878 - 1926) – (CL014) Class 2<br><br>Infilled Land / Area of Fill / Demolition Rubble – (CL015) Class 2<br><br>Infilled and unspecified Pits and Ground Workings (1879 - 1957) – (CL020) Class 2<br><br>Former Quarry (1899 - 1961) – (CL041) Class 2 |

| Receptors | | | | | | |
|---|---|---|---|---|---|---|
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Winterbourne Stoke Chalk Pit (1879 - 1926) (CL010) | None | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A aquifer | None | None | None | None |
| Unspecified Pit (1878 - 1926) (CL014) | None | Bedrock - Principal Aquifer | None | None | None | None |
| Infilled Land / Area of Fill / Demolition Rubble (CL015) | None | Bedrock - Principal Aquifer | None | None | None | None |
| Infilled and unspecified Pits and Ground Workings (1879 - 1957) (CL020) | None | Bedrock - Principal Aquifer | None | None | None | None |

| | | | | | | |
|---|---|---|---|---|---|---|
| Former Quarry (1899 - 1961) (CL041) | None | Bedrock - Principal aquifer | Drain to River Avon | None (SSSI – River Avon) | A303 | Located on alignment of current A303 |
| Post-construction development description | | | | | | |
| CL010 – south of River Till Viaduct embankment east<br>CL014 – north of River Till Viaduct embankment east<br>CL015 – north of River Till Viaduct embankment east and Drainage are four (east of River Till)<br>CL020 – south of Longbarrow cutting east<br>CL041 – east of eastern portal, Amesbury Cutting, west of Countess Junction | | | | | | |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial/public open space<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Off-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users - commercial/public open space<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater –<br><br>Principal Aquifer<br>Secondary A aquifer | Vertical and lateral migration. | Low | Mild | Low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Controlled waters – surface waters<br><br>River Avon | Groundwater migration, direct run-off from site. | Unlikely | Mild | Very low |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | N/A | N/A | N/A |
| | | Aggressive Ground Conditions | N/A | N/A | N/A |
| | Ecological/geological designations<br><br>SSSI - River Avon | Vertical and lateral migration, direct contact. | Unlikely | Mild | Very low |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no residential or commercial receptors or properties on or adjacent to the site. Gas source potentially present but no viable receptors. | | | | | |

**Table 150.1.16: Detailed risk assessment for the Infilled Land sites located outside the Proposed Scheme boundary but within the Study Area**

| | |
|---|---|
| Site ID (IDS) | CL006, CL021, CL039, CL052, CL063, CL098 |
| Site group | Infilled Land located outside the Proposed Scheme boundary but within the Study Area |
| Site title (Site ID) and land use class | Possible Infilled Ground - former Covered Reservoir – (CL006) Class 2.<br><br>Pump House (and associated former Covered Reservoir) – (CL021) Class 2.<br><br>Disused Tip (1974) – (CL039) Class 2.<br><br>Former Gravel Pit (1926 - 1961) – (CL052) Class 2<br><br>Former Chalk Pit (1878 - 1961) – (CL063) Class 2<br><br>Unknown Filled Ground (pit, quarry, etc) – (CL098) Class 2 |

| Receptors | | | | | | |
|---|---|---|---|---|---|---|
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Possible Infilled Ground - former Covered Reservoir (CL006) | None | Bedrock - Principal Aquifer | None | None | None | Surrounded by agricultural land |
| Disused Tip (1974) (CL039) | None | Bedrock - Principal Aquifer | None | None | None | Agricultural land on and off site |
| Former Gravel Pit (1926 - 1961) (CL052) | None | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | River Avon | River Avon - SSSI | None | Surrounded by agricultural land |
| Former Chalk Pit (1878 - 1961) (CL063) | On-site Public open space<br><br>Off-site Commercial Public open space | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | None | None | Off-site Commercial properties | Park land (Ratfyn Farm B&B), farmland on all sides, large pond to the north |

| | | | | | | |
|---|---|---|---|---|---|---|
| Unknown Filled Ground (pit, quarry, etc) (CL098) | Off-site Residential | Bedrock - Principal Aquifer | None | On Site National Nature Reserve - SSSI - Parsonage Down | Off-site Commercial / residential property | Surrounded by agricultural land |
| Post-construction development description | | | | | | |
| None. Sites are located outside the Proposed Scheme boundary | | | | | | |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial/public open space<br><br>Lords Walk Park/Ratfyn B&B grounds | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Low | Mild | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild | Very low |
| | | Inhalation of ground gases. | Low | Mild | Very low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Off-site users – residential<br><br>Cherry Lodge Farm<br>Ratfyn Farm B&B | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Medium | Low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Medium | Low |
| | | Inhalation of ground gases. | Unlikely | Medium | Low |
| | Off-site users - commercial/public open space<br><br>Ratfyn Farm B&B<br>Lords Walk Park (public open space) | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Mild | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Mild | Very low |
| | | Inhalation of ground gases. | Unlikely | Mild | Very low |
| | Controlled waters – groundwater –<br><br>Principal Aquifer<br>Secondary A Aquifer | Vertical and lateral migration. | Low | Mild | Low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Controlled waters – surface waters<br><br>River Avon | Groundwater migration, direct run-off from site. | Low | Mild | Low |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | Unlikely | Medium | Low |
| | | Aggressive Ground Conditions | Unlikely | Medium | Low |
| | Ecological/geological designations<br><br>SSSI - River Avon National Nature Reserve - SSSI - Parsonage Down | Vertical and lateral migration, direct contact. | Low | Mild | Low |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no residential receptors or properties on the site. | | | | | |

## 10.9 Detailed Risk Assessment – Farm Sites

**Table 160.1.17: Detailed risk assessment for Farm sites located within the Proposed Scheme boundary**

| | |
|---|---|
| Site ID (IDS) | CL001, CL034, CL036 |
| Site group | Farm sites located within the Proposed Scheme boundary |
| Site title (Site ID) and land use class | Pig Farm (Berwick Down) - (CL001) Class 1.<br><br>Pig Farm (Longbarrow Roundabout) - (CL034) Class 1.<br><br>Former Stonehenge Pedigree Stock Farm (1924 - 1926) – (CL036) Class 1. |

| Receptors | | | | | | |
|---|---|---|---|---|---|---|
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Pig Farm (CL001) | None | Bedrock - Principal Aquifer | None | None | None | <50m away from potentially infilled land (CL002) |
| Pig Farm (CL034) | None | Bedrock - Principal Aquifer | None | None | None | Agricultural land on all sides<br>Wooded area to west.<br>Livestock on site |
| Former Stonehenge Pedigree Stock Farm (1924 - 1926) (CL036) | On-site and Off-site Stonehenge (Public open space) | Bedrock - Principal Aquifer | None | None | None | Agricultural land on and off site on all sides |

| Post-construction development description |
|---|
| CL001 - At grade at western extremity of the Proposed Scheme<br>CL034 - Cutting approach to western portal<br>CL036 - Tunnel and existing A303 converted to byway. |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | On-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - public open space<br><br>Stonehenge Down | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Minor | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Minor | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Off-site users – residential<br><br>None | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | N/A | N/A | N/A |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | N/A | N/A | N/A |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users – public open space<br><br>Stonehenge Down | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Minor | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Minor | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater –<br><br>Principal Aquifer | Vertical and lateral migration. | Unlikely | Mild | Very low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Controlled waters – surface waters<br><br>None | Groundwater migration, direct run-off from site. | N/A | N/A | N/A |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | N/A | N/A | N/A |
| | | Aggressive Ground Conditions | N/A | N/A | N/A |
| | Ecological/geological designations<br><br>None | Vertical and lateral migration, direct contact. | N/A | N/A | N/A |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no residential receptors or properties on the site. Also there are no surface water courses or ecological/geological designations on or adjacent to the sites. | | | | | |

**Table 170.1.18: Detailed risk assessment for Farm sites located outside the Proposed Scheme boundary but within the Study Area**

| | | | | | | |
|---|---|---|---|---|---|---|
| Site ID (IDS) | CL003, CL012 | | | | | |
| Site group | Farm sites located outside the Proposed Scheme boundary but within the Study Area | | | | | |
| Site title (Site ID) and land use class | Cherry Lodge Farm (formerly Homanton Farm) – (CL003) Class 1.<br><br>Manor Farm – (CL012) Class 1. | | | | | |
| Receptors | | | | | | |
| Site title (Site ID) | Sensitive land use (human receptor) (adjacent and/or <50m) | Aquifer designation | Surface watercourse (adjacent and/or <50m) | Geological, including minerals designation or ecological designation (adjacent and/or <50m) | Property e.g. buildings and structures (adjacent and/or <50m) | Other |
| Cherry Lodge Farm (formerly Homanton Farm) (CL003) | On-site Residential Commercial | Bedrock - Principal Aquifer | None | National Nature Reserve - Parsonage Down | On-site Residential and commercial property | <50m away from potentially infilled land (CL098) |
| Manor Farm (CL012) | On-site Residential Commercial<br><br>Off-site Residential, Commercial | Bedrock - Principal Aquifer<br><br>Superficial - Secondary A Aquifer | River Till | River Till - SSSI | On-site Residential and commercial property<br><br>Off-site Residential, Commercial property | None |
| Post-construction development description | | | | | | |
| None. Sites are located outside the land required for the construction of the Proposed Scheme. Sites are located south of River Till Viaduct and north of Parsonage Down. | | | | | | |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | On-site users – residential<br><br>Cherry Lodge Farm<br>Manor Farm | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Minor | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Minor | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | On-site users - commercial<br><br>Cherry Lodge Farm<br>Manor Farm | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Minor | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Minor | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Off-site users – residential | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Minor | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Minor | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Off-site users - commercial<br><br>Petrol filling Station, Public House | Direct contact, ingestion, inhalation of dust/vapour with/from contaminated soils. | Unlikely | Minor | Very low |
| | | Direct contact, ingestion, inhalation of vapour with/from contaminated waters. | Unlikely | Minor | Very low |
| | | Inhalation of ground gases. | N/A | N/A | N/A |
| | Controlled waters – groundwater –<br><br>Principal Aquifer<br>Secondary A Aquifer | Vertical and lateral migration. | Unlikely | Mild | Very low |

| Source | Receptor | Pathway | Probability | Consequence | Risk at baseline without mitigation |
|---|---|---|---|---|---|
| Soil, leachate and groundwater contamination.<br>Ground gas.<br>Potential for a range of inorganic and organic contaminants including but not limited to: heavy metals, ammonia, acids, organic compounds, inorganic compounds, asbestos, hydrocarbons, PAH, solvents, lubricants, fuel oils, alkalis, PCB, methane and carbon dioxide. | Controlled waters – surface waters<br><br>River Till | Groundwater migration, direct run-off from site. | Low | Mild | Low |
| | Property receptors – buildings, foundations, and services (on-site and off-site) | Exposure to explosive gases. | N/A | N/A | N/A |
| | | Aggressive Ground Conditions | N/A | N/A | N/A |
| | Ecological/geological designations<br><br>National Nature Reserve - Parsonage Down<br>SSSI-River Till | Vertical and lateral migration, direct contact. | Unlikely | Mild | Very low |
| Notes / assumptions<br>Sites assessed without construction of the Proposed Scheme.<br>N/A is not applicable as there are no known potential gas sources on the sites. | | | | | |

# Appendix C Generic Quantitative Risk Assessment Methodology

## C.1 General

C.1.1.1 The findings of the ground investigation and chemical analysis undertaken, together with the initial CSM established in Section 4, have been used as the basis for undertaking a Generic Quantitative Risk Assessment (GQRA). The GQRA aims to quantify the potential risks identified in relation to the potential sources and linkages previously summarised in the initial CSM through the screening of sample data.

C.1.1.2 The CSM identifies potential source-pathway-receptor contaminant linkages that may require further assessment. This is consistent with the tiered approach advocated by the Environment Agency's online guidance for the management of land contamination, LCRM. [4]

C.1.1.3 An assessment of the potential significance of the concentrations detected in soil and groundwater during the ground investigations conducted to date has been undertaken against Evaluation Criteria (EC) that are intended to be protective of human health and controlled waters receptors.

C.1.1.4 The EC provide a conservative means of initial assessment and provide the basis for screening out potential contaminants that do not warrant further consideration or action (i.e. the level of risk associated with the determinand is acceptable and not of concern).

## C.2 Human health assumptions and criteria used

C.2.1.1 Risks to human health have been primarily assessed in accordance with the Contaminated Land Exposure Assessment (CLEA) methodology [24].

C.2.1.2 Risks to potential future site users, i.e. road users, maintenance workers and off-site users from potential contamination within the soils at the site have been assessed. Risk to construction workers are considered separately.

C.2.1.3 Soil EC have been published for numerous contaminants by both regulatory and industry recognised bodies. Where EC have not been published, AECOM has derived its own EC values using industry recommended and accepted methods.

C.2.1.4 EC have been derived for a public open space (park) land use in order to assess the risk from soils to future site users. The selection of these criteria is conservative given the proposed development is a road scheme incorporating re-grading, cuttings, embankments, and construction of a tunnel where potential exposure pathways to future human receptors using the site (the road) will be limited. However, the assessment serves to quantify the available soils data and provide an understanding of the overall baseline condition of the soil quality within the site boundary.

C.2.1.5 It is noted that the public open space human health EC are not based on any aesthetic consideration of soil quality, nor suitability for plant health (re: any proposed landscaping), nor suitability for subsurface utilities.

C.2.1.6 The derivation of the EC for human health includes the following assumptions:

- Contaminants are present in the top 1m of the ground profile and there is a viable pathway to the surface;
- Contaminants are present at depths below 1m of the ground profile which may be exposed during excavation/construction works.
- Soil at the site has a total organic carbon (TOC) geometric mean content of 0.88%; varying between 0.38% to 0.78%. Therefore, a TOC range of 0.58% to <1.45% has been used in selecting the appropriate EC; and
- Soils are deemed to be most representative of a 'sandy loam'.

C.2.1.7 The following hierarchy has been adopted in selecting the appropriate EC to use for the potential contaminants of concern to screen as part of this assessment:

- Defra (2014) SP1010: Development of Category 4 Screening Levels for Assessment of Land Contamination - Policy Companion Document, December 2014. Public Open Space (park). 1% Soil Organic Matter (SOM);
- CL:AIRE (2021) CL:AIRE Category 4 Screening Levels: Vinyl Chloride 1% SOM;
- CL:AIRE (2021) CL:AIRE Category 4 Screening Levels: Trichloroethene (TCE) 1% SOM;
- CL:AIRE (2021) CL:AIRE Category 4 Screening Levels: Tetrachloroethene (PCE) 1% SOM; and
- LQM/CIEH Suitable 4 Use Levels (2015). Public Open Space (park). 1% SOM.

C.2.1.8 The Environment Agency Report 'The UK Approach for Evaluating Human Health Risk from Petroleum Hydrocarbons in Soils' (SR: P5-080/TR3, 2005) states that even where guideline values for the individual TPH fractions are not exceeded, potential additive toxicological effects between the fractions may result in a potential risk to human health. The suggested approach to address this issue is to calculate Hazard Quotients (HQ) for each fraction by dividing the recorded concentration of the fraction by the corresponding guideline value. These HQ are then summed to form an overall Hazard Index (HI). Where the HI exceeds 1, further risk assessment or an appraisal of remedial works should be undertaken; where HI is less than one, no further action is required.

C.2.1.9 The calculated HQ and HI from the soil samples obtained across the four areas have been calculated in respect to assessment criteria for Public Open Space (park) and are presented in Appendix H.

C.2.1.10 The methodology and assumptions presented for human health discussed here are not applicable to the short-term, and typically high frequency of exposure experienced by construction/maintenance workers. It has been

assumed that the risk to this receptor group will be appropriately managed through construction health and safety legislation and practice including for groundworkers to assess site specific risk to health and incorporate appropriate mitigation. Personal protective equipment will also be a minimum requirement for site workers. The main potential contamination linkages applicable to construction/maintenance workers are:

- Direct contact with, or ingestion of, contaminants within soils, groundwater, and soil derived dust;
- Inhalation of organic vapours from soils, groundwater, and soil derived dust (primarily asbestos); and
- Ground gas inhalation/explosion risk.

C.2.1.11 The OEMP (Appendix 2.2 of the ES [2]) states that the main works contractor shall implement measures on site, in accordance with CIRIA C741 4th Edition Environmental Good Practice [23], to assess and control risks to humans, e.g. construction workers, site visitors and nearby residents, resulting from the disturbance of contaminated land.

C.2.1.12 The OEMP states that the contractor shall prepare and implement a gas monitoring procedure based on the potential for presence of underground gases; the contractor would undertake monitoring of the atmosphere within excavations to assess the development of any potentially explosive and/or asphyxiant conditions. Therefore, this will provide mitigation for potential impact from ground gas during construction.

## C.3 Controlled waters assumptions and criteria used

C.3.1.1 Risks to controlled waters have been assessed using a tiered approach based on that described in the Environment Agency's Remedial Targets Methodology (RTM) [25].

C.3.1.2 Soil leachate and groundwater data has been screened against controlled waters EC that are designed to be protective of groundwater (Chalk Principal aquifer, plus Secondary A and (undifferentiated) aquifers associated with superficial deposits) and surface water (River Avon and River Till), and protective of groundwater resources within the underlying aquifers.

C.3.1.3 Controlled waters EC selected for soils and groundwater are primarily England & Wales Drinking Water Standards (DWS) for aquifer protection and Environmental Quality Standards (EQS) for protection of the surface water. However, these are not published for certain determinands, and so in the absence of an EQS or DWS, reference has been made to the following in order of preference:

### DWS criteria:

- Water, England & Wales - Water Supply (Water Quality) Regulations, 2016 No. 614;
- Guidelines for Drinking-water Quality (4th Edition inc. the First Addendum). World Health Organisation. 2017;

- World Health Organisation (WHO), Petroleum Products in Drinking-water. Background document for development of WHO Guidelines for Drinking-water Quality WHO/SDE/WSH/05.08/123, 2008;
- Drinking Water Guidelines Calculated (AECOM) using WHO Methodology; and
- US Environmental Protection Agency (USEPA), Risk Screening Levels, May 2020. Tap water.

### EQS (freshwater) criteria:

- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 – Annual Average (AA)-Environmental Quality Standard (EQS) Inland;
- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 – Maximum Acceptable Concentration (MAC)-EQS Inland;
- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 – Freshwater Standards;
- The Water Environment (River Basin Management Planning etc.) (Miscellaneous Amendments) (Scotland) Regulations 2015. Scottish SI 2015 No. 211. AA-EQS Inland;
- Scottish Environmental Protection Agency (SEPA) - Supporting Guidance (WAT-SG-53) Environmental Quality Standards for Discharges to Surface Waters. v6. Dec 2015. Fresh EQS – AA; and
- SEPA - Supporting Guidance (WAT-SG-53) Environmental Quality Standards for Discharges to Surface Waters. v6. Dec 2015. Fresh EQS – MAC.

C.3.1.4 In the absence of soil leachate data, an assessment can be undertaken on the soil sample data to evaluate potential risks to controlled waters from reported contaminant concentrations in soil. This references calculated soil EC that represent theoretical soil concentrations that could partition at equilibrium to give a concentration in soil pore water equivalent to the applicable EC in the above list (as described in Section 5 of the RTM). As soil leachate data is available across the Scheme and within each Area as a whole, this exercise has not been undertaken at this level of assessment as the actual soil leachate sample data provides a more accurate reflection of site conditions.

# Appendix D Area 1 Western Limits to Winterbourne Stoke - GQRA

## D.1 Human health (current and future site users)

### Comparison of human health EC against soil results

D.1.1.1 The laboratory results from the 32 soil samples sampled from Area 1 were screened against the human health EC for a public open space (park) end use as per the GQRA methodology described in Appendix C. The analysis undertaken on these samples is presented within Table 5-5, Section 5 within the main text of the report.

D.1.1.2 Of the 32 soil samples obtained and screened:

- None of the samples were obtained from soils within the potential contaminated sites within Area 1;
- 30 samples were obtained from soils outside of the potential contaminated sites within Area 1 but within the Scheme boundary; and
- Two samples were obtained outside of the potential contaminated sites and outside of the Scheme boundary.

D.1.1.3 The human health GQRA screening table for Area 1 is presented in Appendix H.

D.1.1.4 The results of the screening of the laboratory soil testing data indicates that all soil samples analysed within Area 1 were detected at concentrations less than their respective EC that are intended to be protective of human health within a public open space (park) end-use scenario.

D.1.1.5 In total, eight soil samples in Area 1 were screened for the presence of asbestos. All the samples were obtained outside of the potential contaminated sites located within Area 1 of which four were obtained along the Scheme preferred route. Therefore, ground disturbance is likely in these areas during the works. However, asbestos was not detected in any of the samples analysed.

### Summary of risk to human health

D.1.1.6 Based on the results of the human health GQRA, undertaken on available soil samples obtained from Area 1 it is concluded that there is unlikely to be an unacceptable risk to human health from the soils samples within Area 1. Whilst this supports the initial CSM, and the typically low and very low risks identified, it should be acknowledged that the GQRA has been based on limited sampling data.

D.1.1.7 Although no specific soils samples were able to be obtained from within the potential contaminated sites in Area 1, the concentrations observed from the soils within this area as a whole are generally low.

D.1.1.8 Table D-1 below present the summary of risk to human health within Area 1 based on the available data and their distribution in relation to the potential contaminated sites.

D.1.1.9 Further discussion on recommended additional assessment that may be required based on level of risk reported, and the nature of planned construction work, in relation to the potential contaminated sites is presented within Section 8 of the main report.

## Table D-1 Area 1 Western Limits to Winterbourne Stoke: summary of risks to human health

| Name and reference | Distance from the proposed road alignment*** | Ground investigation data | Planned construction Activity | Summary of exceedances of human health Evaluation Criteria (EC) | Summary risks to human health |
|---|---|---|---|---|---|
| Outside potential contaminated sites but within Scheme area | - | 30 samples were obtained from soils outside of the potential contaminated sites within Area 1 but within the Scheme boundary. | General works in Area 1 include: Winterbourne Stoke cutting west, Green bridge one, embankment, B3083 underbridge, River Till cutting west, River Till Viaduct and embankment, Green bridge two, chalk grassland habitat. | No exceedances of human health EC detected. | Risk to human health is acceptable. |
| Outside potential contaminated sites and outside Scheme area | - | Two samples were obtained from soils outside of the potential contaminated sites and outside of the Scheme boundary. | Outside the Scheme | No exceedances of human health EC detected. | Risk to human health is acceptable. |

****In relation to the proposed road alignment itself (not the Scheme boundary)*

D.1.1.10 All but one of the potential contaminated land sites (CL080) within Area 1 were assessed to have only low or very low risks to human health in the initial CSM (Table 4-6).

D.1.1.11 Of the sites with only low or very low risks identified to human health, only the following potential contaminated land sites have planned construction activities on the site.

- CL001 - construction of PRoW;
- CL005 - archaeological AER;
- CL014 – archaeological SMR, embankment construction, fill landscaping;
- CL015 – archaeological SMR and fill landscaping;

D.1.1.12 CL080 (High Pressure Oil Pipeline) was the only site with potential higher risk identified in the initial CSM to human health due to adjacent residential properties. CL080 also has planned construction works on the site (archaeological SMR and AMR, diversion of the existing pipeline (underground – trenching) and excavation and removal of the redundant pipeline, embankment construction).

D.1.1.13 No ground investigation works have currently been undertaken within or adjacent to CL001, CL005, CL014 and CL015. It is understood that Esso will conduct their own ground investigations with regard to CL080. The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

## D.2 Controlled waters (surface water – River Till)

### General

D.2.1.1 The potential surface water receptor in Area 1 is the River Till, which flows southwards through Winterbourne Stoke.

D.2.1.2 Groundwater in the Chalk aquifer flows in a generally southerly direction with flow at high groundwater levels converging on the River Till in the west of the Scheme area (with inferred flow directions within Area 1 trending south westerly or south easterly towards the river). The groundwater discharges as baseflow to the river. The risk to the river from the potential contaminated sites within Area 1 is via this intermediate groundwater pathway. The input of groundwater to the river may be reduced or reversed during periods of low groundwater levels.

D.2.1.3 No licensed surface water abstractions were identified within 1km of the Scheme in Area 1.

### Comparison of surface water EC against soil leachate and groundwater results

D.2.1.4 The laboratory results from the 11 soil leachate samples and two groundwater samples collected from Area 1 during the ground investigations were screened against the surface water EC as per the GQRA methodology described in Appendix C. The samples collected are listed in Table 5-1 and the analysis undertaken on these samples is presented within Table 5-5, both in Section 5 within the main text of the report.

D.2.1.5 Of the 11 soil leachate samples, 10 were obtained outside potential contaminated sites within Area 1 but within the Scheme boundary, whilst one sample was obtained outside the potential contaminated sites and also outside the Scheme boundary.

D.2.1.6 The two groundwater samples were obtained outside potential contaminated sites within Area 1 but within the Scheme boundary.

D.2.1.7 In addition, 10 samples were collected from two wells between 2018 and 2021 during the groundwater monitoring programme and these were also reviewed during the assessment. The analysis undertaken on these samples is presented within Table 5-9, Section 5 within the main text of the report. These include samples taken in close proximity to sites CL003 and CL080.

D.2.1.8 The results of the screening of the laboratory soil leachate data are presented in Appendix H and summarised in Table D-2. These indicate that the following numbers of soil leachate samples analysed within Area 1 were detected at concentrations above their respective EC protective of a surface water receptor.

**Table D-2 Area 1: surface water evaluation criteria exceedances for soil leachate data**

| Determinand | Units | EC protective of surface water | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Fluoranthene | µg/l | 0.0063 | 9 | 3 | 0.134 | 3 |
| Copper | µg/l | 1 | 9 | 7 | 10.2 | 7 |

D.2.1.9 The results of the screening of the laboratory groundwater data are presented in Appendix H and summarised in Table D-3. These indicate that the following numbers of groundwater samples analysed within Area 1 were detected at concentrations above their respective EC protective of a surface water receptor.

**Table D-3 Area 1: surface water evaluation criteria exceedances for groundwater data**

| Determinand | Units | EC protective of surface water | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Copper (Filtered) | µg/l | 1 | 2 | 2 | 3.2 | 1 |
| Nickel (Filtered) | µg/l | 4 | 2 | 2 | 6.6 | 2 |
| Zinc (Filtered) | µg/l | 10.9 | 2 | 2 | 19 | 1 |

### Summary of risks to surface water (River Till)

D.2.1.10 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 1, are presented in the following table (D-4).

D.2.1.11 Where EC have been exceeded, the level of risk to surface water receptors has been assessed and is summarised in the table.

D.2.1.12 Whilst fluoranthene was detected in soil at levels that could pose a risk to surface water across the Scheme in Area 1 (but outside of specific potential contaminated sites) the level of risk is considered to be low as an absence in groundwater samples, and only limited soil leachate exceedances, suggest that its presence is not widespread and levels in excess of EC are localised. Additionally, the soil leachate samples with exceedances were from locations over 700m from the river in the direction of groundwater flow.

D.2.1.13 The iron, copper, nickel, and zinc concentrations detected in soil leachate or groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to surface water receptors from these determinands from soils in Area 1 of the Scheme is considered to be low.

## Table D-4 Area 1: summary of risk to surface water (River Till)

| Name and reference | Distance from the proposed road alignment*** | Ground investigation data | Planned construction Activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| CL003 - Cherry Lodge Farm (formerly Homanton Farm) | 870m from the proposed road alignment | One groundwater monitoring programme location was located immediately down-inferred hydraulic gradient of the site. | No works proposed within CL003 (as it is located outside of the Scheme boundary).<br>Closest works are approximately 25m east of Cherry Lodge:<br><br>Preliminary Works (PW) – Archaeological investigation (Strip, Map and Record (SMR)).<br>Scottish and Southern Electricity Networks (SSEN) cable diversion (trenching). | Groundwater monitoring programme:<br><br>At RX629, zinc exceeded EC by less than one order of magnitude and iron exceeded EC by an order of magnitude. | The iron and zinc concentrations detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to surface water receptors from these determinands from soils in Area 1 of the Scheme is considered to be low. |
| CL080 - High Pressure Esso Oil Pipeline | Crosses the proposed road alignment | No data were available for the immediate area of the pipeline at the time of the assessment. However, two groundwater monitoring programme locations were within 250m of the pipeline. | PW – Archaeological mitigation (SMR (for the new alignment) and AMR (for excavation/removal of the redundant pipeline)).<br>Diversion of the existing pipeline (underground – trenching) immediately east of its current location.<br>Excavation and removal of the redundant pipeline.<br><br>MWs – Eastern embankment of the till | Groundwater monitoring programme:<br><br>At one location, SU04/Scotland Lodge, nickel, and zinc exceeded EC by one order of magnitude.<br><br>At RX629, zinc exceeded EC by less than one order of magnitude and iron exceeded EC by an order of magnitude. | Determinands associated with an oil pipeline (petroleum hydrocarbons, PAHs) in these samples were either below or close to method detection limits and do not show evidence of impact to groundwater from this potential source at these locations.<br><br>The iron, nickel and zinc concentrations detected in groundwater are generally within the range of the BGS |

| Name and reference | Distance from the proposed road alignment*** | Ground investigation data | Planned construction Activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| | | | viaduct to cross southern section of the pipeline. Woodland planting on the embankment.<br>Landscape area (fill) north of the embankment). | | background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to surface water receptors from these determinands from soils in Area 1 of the Scheme is considered to be low. |
| Outside potential contaminated sites | - | Of the 11 soil leachate samples, 10 were obtained outside contaminated land sites within Area 1 but within the Scheme boundaries, one was obtained outside contaminated land sites within Area 1 and outside the Scheme boundaries.<br>Both the 2 groundwater samples were obtained outside contaminated land sites within Area 1 but within the Scheme boundaries. | General works in Area 1 include: Winterbourne Stoke cutting west, Green bridge one, embankment, B3083 underbridge, River Till cutting west, River Till Viaduct and embankment, Green bridge two, chalk grassland habitat. | Soil leachate:<br>At three locations, R70112, STP501, and STP70501 fluoranthene exceeded EC by up to two orders of magnitude.<br><br>At all locations tested in this area, except SA501 and STP501, copper exceeded EC by up to one order of magnitude.<br><br>Groundwater – GI:<br>For groundwater samples collected within the Scheme, nickel exceeded EC by less than one order of magnitude at both locations.<br>At one location, R71001, zinc exceeded EC by up to | Whilst fluoranthene was detected in soil at levels that could pose a risk to surface water, the level of risk is considered to be low, based on:<br><br>It was not detected in the groundwater samples collected in this area, and the soil leachate exceedances were only recorded at three, separate locations across the area. This suggests that its presence is not widespread and levels in excess of EC are localised. These locations are over 700m from the River Till in the |

| Name and reference | Distance from the proposed road alignment*** | Ground investigation data | Planned construction Activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| | | | | one order of magnitude and copper by less than one order of magnitude. | inferred direction of groundwater flow.<br><br>The copper, nickel and zinc concentrations detected in groundwater, and copper in soil leachate, are all within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to surface water receptors from these determinands from soils in Area 1 of the Scheme is considered to be low. |

****In relation to the proposed road alignment itself (not the Scheme boundary)*

## D.3 Controlled waters (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)

### General

D.3.1.1 The potential groundwater receptors in Area 1 include the following groundwater bodies:

- Chalk Principal aquifer, present across the area and considered the critical groundwater receptor.
- Superficial Secondary A aquifer - Alluvium, River Terrace Deposits within the valley of the River Till and localised Head Deposits (where these consist of gravel).
- Secondary (undifferentiated) aquifer – localised Head Deposits (comprising clay, silt, sand, and gravel)).

D.3.1.2 Four licensed groundwater abstractions from the Chalk were identified in within 1km of the Scheme in Area 1:

- WISMA Farm Borehole Point A – none of the potential contaminated sites were located up-hydraulic gradient of this, so this abstraction is not considered to be at risk from these sites.
- WISMA Berwick St. James – none of the potential contaminated sites were located up-hydraulic gradient of this, so this abstraction is not considered to be at risk from these sites.
- Scotland Lodge, Winterbourne Stoke - located approximately 1.5km south east and down-hydraulic gradient of CL003 and CL098 (both of which are located adjacent to but outside of the Scheme area). Given the distance, the risk to this abstraction from these sites is considered low.
- Manor Farm - Well 4 was located within potential contaminated site CL012. For Well 2, none of the potential contaminated sites were located up-hydraulic gradient of this, so this abstraction well is not considered to be at risk from these sites.

D.3.1.3 One SPZ lies within 1km of the Scheme in Area 1, at Shrewton, north of Winterbourne Stoke (SPZ1, SPZ2, SPZ3 approximately 600m to 830m from the Scheme boundary). This is considered up-hydraulic gradient of potential contaminated sites in Area 1 given the southerly groundwater flow direction in the Chalk.

### Comparison of groundwater EC against soil leachate and groundwater results

D.3.1.4 The laboratory results from the 11 soil leachate samples and two groundwater samples collected from Area 1 during the ground investigations were screened against the groundwater EC as per the GQRA methodology described in Appendix C. The samples collected are listed in Table 5-1 and the analysis undertaken on these samples is presented within Table 5-5, both in Section 5 within the main text of the

report. These were supplemented with 10 samples collected during the groundwater monitoring programme (described in Table 5-9).

D.3.1.5 Further details of the samples included in the assessment, relative to the potential contaminated sites and the Scheme boundary are described earlier in Section D2.

D.3.1.6 The results of the screening of the laboratory soil leachate data are presented in Appendix H and summarised in Table D-5. These indicate that the following numbers of soil leachate samples analysed within Area 1 were detected at concentrations above their respective EC protective of a groundwater receptor.

**Table D-5 Area 1: groundwater evaluation criteria exceedances for soil leachate data**

| Determinand | Units | EC protective of groundwater | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Iron | µg/l | 200 | 7 | 2 | 516 | 2 |
| Phosphorus | µg/l | 0.4 | 9 | 9 | 170 | 9 |

D.3.1.7 The results of the screening of the laboratory groundwater data are presented in Appendix H and summarised in Table D-6. These indicate that the following numbers of groundwater samples analysed within Area 1 were detected at concentrations above their respective EC protective of a groundwater receptor.

**Table D-6 Area 1: groundwater evaluation criteria exceedances for groundwater data**

| Determinand | Units | EC protective of groundwater | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Phosphorus (Filtered) | µg/l | 0.4 | 2 | 2 | 40 | 2 |
| Nitrate (as NO3-) | mg/l | 50 | 2 | 2 | 61 | 2 |

### Summary of risks to groundwater (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)

D.3.1.8 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 1, are presented Table D-7 below.

D.3.1.9 Where EC have been exceeded, the level of risk to groundwater receptors has been assessed and is summarised in the table.

D.3.1.10 The phosphorus and iron concentrations detected in soil leachate or groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to groundwater receptors from these determinands from soils in Area 1 of the Scheme is considered to be low.

D.3.1.11 Whilst nitrate concentrations in ground investigation groundwater samples were marginally higher than the maximum value in the BGS data set by approximately by one magnitude, these determinands are attributed to general agricultural land-use across the Scheme area.

**Table D-7 Area 1: summary of risk to groundwater (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)**

| Name and reference | Distance from the proposed road alignment*** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| CL003 - Cherry Lodge Farm (formerly Homanton Farm) | 870m from the proposed road alignment | One groundwater monitoring programme location was located immediately down-inferred hydraulic gradient of the site. | No works proposed within CL003 (as it is located outside of the Scheme boundary).<br>Closest works are approximately 25m east of Cherry Lodge:<br><br>Preliminary Works (PW) – Archaeological investigation (Strip, Map and Record (SMR)).<br>Scottish and Southern Electricity Networks (SSEN) cable diversion (trenching). | Groundwater monitoring programme:<br><br>At RX629, phosphorus exceeded EC by up to three orders of magnitude and iron exceeded EC by up to an order of magnitude. | The iron and phosphorus concentrations detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to groundwater receptors from these determinands from soils in Area 1 of the Scheme is considered to be low. |
| CL080 - High Pressure Esso Oil Pipeline | Crosses the proposed road alignment | No data were available for the immediate area of the pipeline at the time of the assessment. However, two groundwater monitoring programme locations were within 250m of the pipeline. | PW – Archaeological mitigation (SMR (for the new alignment) and AMR (for excavation/removal of the redundant pipeline)).<br>Diversion of the existing pipeline (underground – trenching) immediately east of its current location.<br>Excavation and removal of the redundant pipeline. | Groundwater monitoring programme:<br><br>At both locations phosphorus exceeded EC by up to three orders of magnitude .<br><br>At one location, SU04/Scotland Lodge, nickel exceeded EC by an order of magnitude. | Determinands associated with an oil pipeline (petroleum hydrocarbons, PAHs) in these samples were either below or close to method detection limits and do not show evidence of impact to groundwater at these locations from this potential source.<br><br>The iron, nickel and phosphorus concentrations detected in groundwater are |

| Name and reference | Distance from the proposed road alignment*** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | MWs – Eastern embankment of the till viaduct to cross southern section of the pipeline. Woodland planting on the embankment.<br>Landscape area (fill) north of the embankment). | At the other location, RX629, iron exceeded EC by up to an order of magnitude. | generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to groundwater receptors from these determinands from soils in Area 1 of the Scheme is considered to be low. |
| Outside potential contaminated sites | - | Of the 11 soil leachate samples, 10 were obtained outside contaminated land sites within Area 1 but within the Scheme boundaries, 1 was obtained outside contaminated land sites within Area 1 and outside the Scheme boundaries.<br>Both the 2 groundwater samples were obtained outside contaminated land sites within Area 1 but within the Scheme boundaries. | General works in Area 1 include: Winterbourne Stoke cutting west, Green bridge one, embankment, B3083 underbridge, River Till cutting west, River Till Viaduct and embankment, Green bridge two, chalk grassland habitat. | Soil leachate:<br>At all locations tested at this site phosphorus exceeded EC by up to three orders of magnitude.<br><br>At two locations, R70301 and STP70508, iron exceeded EC by less than an order of magnitude.<br><br>Groundwater – GI:<br>At both locations, R71001 and R710002, phosphorous exceeded EC by two orders of magnitude and nitrate by less than one order of magnitude. | Whilst phosphorus and nitrate exceeded EC, the results are considered to reflect background conditions across the area and the risk to groundwater receptors from these determinands from soils in Area 1 is considered to be low.<br><br>The recorded phosphorus concentrations do not exceed the mean value in the BGS background for Chalk groundwater. Nitrate concentrations were higher than the maximum value in the BGS data set at both locations by approximately by one magnitude. |

| Name and reference | Distance from the proposed road alignment*** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | | | However, these determinands are attributed to general agricultural land-use across the Scheme area. Additionally, the exceedance of EC was only marginal. |

****In relation to the proposed road alignment itself (not the Scheme boundary)*

# Appendix E Area 2 Longbarrow Junction - GQRA

## E.1 Human health (current and future site users)

### Comparison of human health EC against soil results

E.1.1.1 The laboratory results from the 44 soil samples sampled from Area 2 were screened against the human health EC for a public open space (park) end use as per the GQRA methodology described in Appendix C. The analysis undertaken on these samples is presented within Table 5-6, Section 5 within the main text of the report.

E.1.1.2 Of the 44 soil samples obtained and screened:

- 17 samples were obtained from within CL018 (Former RAF Oatlands Hill (1941 - 1946);
- No samples within CL025 (Former Larkhill Military Light Railway (Dismantled)). Three samples obtained within 50m from the railway tracks of CL025;
- No samples within CL028 (Rollestone Camp). 3 samples obtained from a location within 39m proximity of CL028;
- No samples obtained within CL033 (Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range). 3 samples obtained within 65m proximity of CL033;
- Six samples were obtained from within CL034 (Pig Farm (Longbarrow Roundabout) and a further one sample from a location within 7m proximity of CL034; and
- 17 samples were obtained outside the potential contaminated sites but were within the Scheme boundary.

E.1.1.3 The locations where soil samples have been undertaken are presented in Figure 4B.

E.1.1.4 It should be noted that a soil sample has been used in more than one scenario in the bulleted list above. For example, a soil sample near to one or more potential contaminated site has been counted twice. Therefore, the number of samples within the bullet list above cumulatively add up to 50 soil samples, where only 44 soil samples were physically taken in Area 2.

E.1.1.5 The human health GQRA screening table for Area 2 is presented in Appendix H.

E.1.1.6 Screening of laboratory soil testing data indicates that all screened analytes were detected at concentrations below their respective EC in all 44 samples except one. The location, depth and concentration of the exceedance are presented in Table E-1.

**Table E-1 Human health evaluation criteria exceedances**

| Determinand | Evaluation Criteria (EC) (mg/kg) | TP4_LRI (0.2 m bgl) (mg/kg) |
|---|---|---|
| Benzo(a)pyrene (surrogate marker for PAH mixture) | 4.4[1] | 8.85 |

EC Exceedance

(1) LQM/CIEH S4ULs 2015

E.1.1.7 In total, eight soil samples in Area 2 were screened for the presence of asbestos. These were obtained as follows:

- CL018: four samples, of which two are slightly outside of the Scheme boundary;
- CL034: one sample; and
- Three samples obtained within the Scheme boundary but not within a potential contaminated site. These are located in areas likely to be affected by ground disturbance during the construction of the Longbarrow roundabouts and Rollestone Junction.

E.1.1.8 Asbestos was not detected in any of the samples analysed.

### Discussion

E.1.1.9 Using benzo(a)pyrene as a surrogate marker for PAH mixture (based on Public Health England: contaminated land sheet: risk assessment approached for PAHs, 2017) provides an indication of the potential risk from the mixture of the carcinogenic PAH. Soil sample TP4_LRI (0.2 m bgl), although did not record any individual PAH concentrations exceeding EC, was noted to exceed the EC for the cumulative mixture of the carcinogenic PAH.

E.1.1.10 Trial Pit TP4_LRI is located within the Scheme boundary, at Longbarrow roundabout (eastern approach), approximately 10m north of CL034 and 30m west of CL025 and has been included within both of these potential contaminated sites for the purpose of this assessment. The exploratory location was within / adjacent to the current Longbarrow roundabout. The exploratory hole log for Trial Pit TP4_LRI reports the presence within the top 0.90m of "*bitumen, concrete and tarmac fragments and tarmac slabs*" which are known sources of PAH and likely to be attributable to the concentrations of PAH at this location. No indication of the presence of bitumen or tarmac was identified in the exploratory holes and trial pits in the vicinity of TP4_LRI.

E.1.1.11 In addition, as no exceedances of human health EC were recorded from the other soils analysed within CL034, or in other locations within 50m proximity of CL025, the exceedance observed in TP4_LRI is unlikely to be related to contamination associated with CL034 or CL025.

E.1.1.12 The exceedance in soil sample TP4_LRI (0.2 m bgl) is therefore, likely to be attributable to localised use of re-worked topsoil associated with the construction or road surfacing of the current A303 and Longbarrow

roundabout. Given the magnitude of the exceedance and the absence of an indication of lateral migration of contamination, the exceedance is to be considered marginal and unlikely to pose an unacceptable risk to human health.

E.1.1.13 The calculated TPH Hazard Quotients (HQ) from the samples analysed for TPH in Area 2 were calculated in respect to assessment criteria for Public Open Space (park). All samples recorded the Hazard Index (HI) below 1.

### Summary of risk to human health

E.1.1.14 Based on the results of the human health GQRA undertaken on available soil samples obtained from Area 2, it is concluded that there is unlikely to be an unacceptable risk to human health from the soil samples within Area 2. The concentrations observed from the soils within Area 2 as a whole are generally low.

E.1.1.15 Soil analysis from soils within the portions of CL018 (Former RAF Oatlands Hill) and CL034 (Pig Farm) within the Scheme boundary did not result in any exceedances for the relevant human health EC.

E.1.1.16 Soil sample analysis undertaken within the Scheme boundary and in proximity of CL033 (Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range) and CL028 (Rollestone Camp) resulted in no exceedances of the relevant EC.

E.1.1.17 There was no specific soil sampling undertaken within CL033 and CL028, Both CL028 and CL033 are located outside of the Scheme boundary but within 50m of the Scheme.

E.1.1.18 An exceedance of the EC for human health was detected in a soil sample obtained from TP4_LRI (0.2m bgl), located at approximately 10m north of CL034 and approximately 30m west of CL025 (Former Larkhill Military Light Railway), within the Scheme boundary. The exceedance is likely to be attributable to localised use of re-worked topsoil which contains bitumen and tarmac. Given the magnitude of the exceedance and the absence of lateral migration of contamination, the exceedance is to be considered marginal and unlikely to pose a significant risk to human health.

E.1.1.19 Given the absence of EC exceedances from the soils within CL034 or in proximity of CL025, the exceedance in TP4_LRI is unlikely to be related to contamination deriving from the two potential contaminated sites. Table E-2 below present the summary of risk to human health within Area 2 based on the available data and their distribution in relation to the potential contaminated sites.

E.1.1.20 Further discussion on recommended additional assessment that may be required based on level of risk reported, and the nature of planned construction work, in relation to the potential contaminated sites is presented within Section 8 of the main report.

## Table E-2 Area 2 Longbarrow Junction – summary of risk to human health

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of human health Evaluation Criteria | Summary risks to human health |
|---|---|---|---|---|---|
| CL018 - Former RAF Oatlands Hill (1941 - 1946) | Overlaps onto the proposed road alignment | 17 soil samples within CL018 boundary | A large portion of CL018 is unaffected by any works.<br><br>PW – Archaeological mitigation (AER, SMR and AMR (removal of the existing A303)).<br>Badger sett closures on the southern embankment of the existing A303.<br>SSEN cable installation (trenching and HDD launch pit location).<br><br>MW – Removal of the existing A303.<br>New Longbarrow junction – dumbbells, slip roads and mainline within cutting.<br>Calcareous grassland creation on verges / cuttings.<br>Return to agriculture. | No exceedances of human health EC detected. | Risk to human health is acceptable. |
| CL025 - Former Larkhill Military Light Railway (Dismantled) | Overlaps with the proposed road alignment | No samples within CL025 boundary.<br>Three samples obtained within 50m from the railway tracks of CL025 | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting. Removal of the | TP4_LRI (0.2m) - exceeded EC for cumulative mixture of the carcinogenic PAH.<br>No other exceedances were noted within the vicinity of CL025. | Risk to human health is acceptable.<br><br>No specific ground investigation along route of CL025. However, soils analysed from locations |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of human health Evaluation Criteria | Summary risks to human health |
|---|---|---|---|---|---|
| | | | existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation adjacent to cutting, redundant A303 (which is not PRoW, and PRoW verges). | | within 50m proximity of CL025 did not exceed the EC for any of determinands analysed. The PAH exceedance in TP4_LRI is unlikely to be related to contamination deriving from CL025 and is more likely associated with Longbarrow roundabout road surface given the presence of tarmac/bitumen within the soil sample. |
| CL028 - Rollestone Camp | Close proximity to the proposed road alignment but not actually overlapping | No samples within CL028 boundary<br>Three soil samples obtained from a location within 39m proximity of CL028 | No works proposed within CL028 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately south:<br><br>PW – Archaeological mitigation (AER).<br>Realignment of Rollestone cross (highways works)/removal of redundant A360 (under AMR).<br>Return to agriculture. | No exceedances in proximity of CL028 | Risk to human health is acceptable.<br><br>No specific ground investigation within CL028. However, soils analysed from locations within 39m proximity of CL028, within the Scheme boundary did not exceed the EC for any of determinands analysed.<br><br>There are no proposed works within CL028 |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of human health Evaluation Criteria | Summary risks to human health |
|---|---|---|---|---|---|
| CL033 - Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range | Close proximity to the proposed road alignment but not overlapping | No samples obtained within CL033 boundary<br>Three samples obtained within 65m proximity of CL033 | No works proposed within CL033 (outside/bordering the Scheme).<br>Closest works are south of The Packway:<br><br>PW – Archaeological mitigation (AER).<br>Realignment of Rollestone cross (highways works)/removal of redundant A360 (under AMR).<br>Return to agriculture. | No exceedances in proximity of the area | Risk to human health is considered acceptable.<br>No specific ground investigation undertaken within CL033. However, soils analysed from locations within 65m proximity of CL033, within the Scheme boundary did not exceed the EC for any of determinands analysed.<br>No planned construction activities are proposed within CL033 |
| CL034 - Pig Farm (Longbarrow Roundabout) | Overlaps onto the proposed road alignment | Six samples were obtained from within CL034 boundary<br>One soil sample from a location within 7m proximity of CL034 | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br><br>Calcareous grassland creation adjacent to cutting, redundant A303 (which is not PRoW, and PRoW verges). | No exceedances were noted within CL034.<br><br>TP4_LRI (0.2 m) (adjacent to CL034) exceeded the EC for the cumulative mixture of the carcinogenic PAH. | Risk to human health is acceptable.<br>The PAH exceedance in TP4_LRI is unlikely to be related to contamination deriving from CL034 and is more likely associated with Longbarrow roundabout road surface given the presence of tarmac/bitumen within the soil sample. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of human health Evaluation Criteria | Summary risks to human health |
|---|---|---|---|---|---|
| Outside potential contaminated sites but within Scheme area | - | 17 soil samples obtained outside the potential contaminated sites but were within the Scheme boundary. | General works in Area 2 include: Longbarrow Junction, including Longbarrow cutting (west, central and east), Longbarrow dumbbell (north and south), New Longbarrow junction eastern and western merge, New Longbarrow junction eastern and western diverge, realigned A360 north and south, Green Bridges 3 and 4. There is also a proposed corridor for utility connection, the cutting approach to the western portal and Rollestone Junction. | No exceedances of human health EC detected. | Risk to human health is acceptable. |

****In relation to the proposed road alignment itself (not the Scheme boundary)*

E.1.1.21 All but three of the potential contaminated land sites within Area 2 (CL018, CL021, CL023) were assessed to have only low or very low risks to human health in the initial CSM (Table 4-7).

E.1.1.22 Of the sites with only low or very low risks identified to human health, only the following potential contaminated land sites have planned construction activities on the site:

- CL016 - archaeological mitigation (SMR). Highway cutting associated with new Longbarrow Junction eastbound works adjacent to the north (within 50m)
- CL020 - archaeological mitigation (SMR) and SSEN cable installation trenching within CL020 boundary. Also, temporary A360 alignment/diversion to enable removal/construction of Longbarrow roundabout.
- CL025 and CL034 have archaeological mitigation (AER) and new A303 alignment within cutting and removal of the existing A303 (under AMR)/conversion to PRoW.

E.1.1.23 Although, CL028 has no construction work planned on the site, archaeological mitigation and the realignment of Rollestone cross (highways works)/removal of redundant A360 is planned within 50m of CL028's boundary.

E.1.1.24 CL018, CL021 and CL023 were the three potential contaminated sites assessed to have moderate/low risks to human health in the initial CSM. The potential risks were associated with off-site residential and commercial users (CL018, CL23) and on-site commercial users (CL021).

E.1.1.25 Construction activity and ground disturbance is planned to take place on CL018. This includes archaeological mitigation (AER, SMR and AMR) associated with the removal of the existing A303; The proposed construction activities on CL023 only include trenching for utilities installation within the highway.

E.1.1.26 No construction works are planned within CL021 with only archaeological mitigation (SMR) and water pipeline installation (trenching) proposed within 50m of CL021.

E.1.1.27 No ground investigation works have currently been undertaken within, or adjacent to, CL016, CL020 (initial CSM low risk sites) and CL021 and CL023; (initial CSM moderate/low risk sites). The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

## E.2 Controlled waters (surface waters – River Till and River Avon)

### General

E.2.1.1 Whilst no surface water receptors have been identified in Area 2, risks to the River Till and River Avon have been assessed based on migration via an intermediate groundwater pathway.

E.2.1.2 Groundwater in the Chalk aquifer flows in a generally southerly direction with flow at high groundwater levels converging on the River Till in the west of the Scheme area and towards the River Avon in the east, creating a groundwater divide between the two rivers. This divide lies within Area 2, and the inferred flow is towards the south west in the western portion of Area 2 and the south east in the eastern part. At low groundwater levels flow across Area 2 is inferred to be to the south to south east towards the River Avon.

E.2.1.3 The groundwater discharges as baseflow to the rivers, although the input of groundwater may be reduced or reversed during periods of low groundwater levels.

E.2.1.4 The risk to the rivers from the potential contaminated sites is via this intermediate groundwater pathway. However, the distances from Area 2 along the inferred flow path are over 950m for the River Till (1.2km from the closest potential contaminated site, CL018) and 4km for the River Avon. On this basis, the River Till is considered to be the critical surface receptor.

E.2.1.5 No licensed surface water abstractions were identified within 1km of the Scheme in Area 2.

### Comparison of surface water EC against soil leachate and groundwater results

E.2.1.6 The laboratory results from the eight soil leachate samples and two groundwater samples collected from Area 2 during the ground investigations were screened against the surface water EC as per the GQRA methodology described in Appendix C. The samples collected are listed in Table 5-2 and the analysis undertaken on these samples is presented within Table 5-6, both in Section 5 within the main text of the report.

E.2.1.7 Of the eight soil leachate samples, two were obtained outside potential contaminated sites within Area 2 but within the Scheme boundary. The remainder were collected from the following sites:

- one sample was obtained within CL034; and
- five samples were obtained within CL018.

E.2.1.8 The two groundwater samples were obtained from within CL018.

E.2.1.9 In addition, 12 samples were collected from three wells between 2018 and 2021 during the groundwater monitoring programme were also reviewed during the assessment. The analysis undertaken on these samples is presented within Table 5-9, Section 5 within the main text of the report.

These include samples taken within site CL021, in close proximity to CL025 and down-inferred hydraulic gradient of CL028 and CL033.

E.2.1.10 The results of the screening of the laboratory soil leachate data are presented in Appendix H and summarised in Table E-3. These indicate that the following numbers of soil leachate samples analysed within Area 2 were detected at concentrations above their respective EC protective of a surface water receptor.

**Table E-3 Area 2 surface water evaluation criteria exceedances for soil leachate data**

| Determinand | Units | EC protective of surface water | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Fluoranthene | µg/l | 0.0063 | 7 | 6 | 0.03 | 6 |
| Benzo(g,h,i)perylene | µg/l | 0.0082 | 7 | 4 | 0.02 | 4 |
| Copper | µg/l | 1 | 7 | 6 | 2.38 | 4 |
| Lead | µg/l | 1.2 | 7 | 5 | 1.3 | 1 |
| Zinc | µg/l | 10.9 | 7 | 7 | 16 | 1 |
| Cyanide, Total Low Level | µg/l | 1 | 5 | 3 | 1.9 | 1 |

E.2.1.11 The results of the screening of the laboratory groundwater data are presented in Appendix H and summarised in Table E-4. These indicate that the following numbers of groundwater samples analysed within Area 2 were detected at concentrations above their respective EC protective of a surface water receptor.

**Table E-4 Area 2 surface water evaluation criteria exceedances for groundwater data**

| Determinand | Units | EC protective of surface water | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Naphthalene | µg/l | 2 | 2 | 2 | 9 | 1 |
| Anthracene | µg/l | 0.1 | 2 | 1 | 3.4 | 1 |
| Fluoranthene | µg/l | 0.0063 | 2 | 1 | 0.96 | 1 |
| Copper (Filtered) | µg/l | 1 | 2 | 2 | 3.1 | 2 |
| Nickel (Filtered) | µg/l | 4 | 2 | 2 | 16 | 2 |
| Zinc (Filtered) | µg/l | 10.9 | 2 | 2 | 36 | 2 |
| Cyanide, Total Low Level | µg/l | 1 | 2 | 2 | 4.4 | 1 |

### Summary of risks to surface water (River Till)

E.2.1.12 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 2, are presented in Table E-5.

E.2.1.13 Where EC have been exceeded, the level of risk to surface water receptors has been assessed and is summarised in the table.

E.2.1.14 The PAHs compounds detected in soils and some groundwater samples may be attributed to localised occurrence in soils related to former site use (at CL018 and CL034) and more general conditions across Area 2. As the potential distance to the River Till in the inferred direction of groundwater flow is 1.2km or more, the detected concentrations are not considered to pose an unacceptable risk to surface water in this receptor. However, given the intrusive MW proposed across CL018 and CL034, measures should be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific re-use criteria should be calculated take account of the potential migratory distance to the river.

E.2.1.15 The copper, iron, lead, nickel and zinc detected in soils and groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area. Based on this, and the potential distance to the River Till in the inferred direction of groundwater flow, the detected concentrations are not considered to pose an unacceptable risk to surface water in this receptor.

E.2.1.16 At CL021, the zinc concentrations detected in groundwater were up to an order of magnitude above the BGS background data for the Chalk groundwater. However, as this was the only determinand to exceed EC at this location, noting the absence of works planned at this site that could result in further disturbance of soils, and based on the potential distance to the River Till in the inferred direction of groundwater flow (over 2km) the detected concentrations are not considered to pose an unacceptable risk to surface water in this receptor.

E.2.1.17 When cyanide was detected in soil and groundwater at levels above the EC, these exceedances were only marginally above the EC and so are not considered to indicate an unacceptable risk from to surface water from this determinand in Area 2.

## Table E-5 Area 2 Longbarrow Junction – summary of risk to surface water (River Till)

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| CL018 - Former RAF Oatlands Hill (1941 - 1946) | Overlaps onto the proposed road alignment | Five soil leachate samples were obtained within CL018.<br>Both of the two groundwater samples were obtained within CL018. | A large portion of CL018 will be unaffected by any construction works.<br><br>PW – Archaeological mitigation (AER, SMR and AMR (removal of the existing A303)).<br>Badger sett closures on the southern embankment of the existing A303.<br>SSEN cable installation (trenching and HDD launch pit location).<br><br>MW – Removal of the existing A303.<br>New Longbarrow junction – dumbbells, slip roads and mainline within cutting.<br>Calcareous grassland creation on verges / cuttings.<br>Return to agriculture. | Soil leachate:<br><br>At all locations except SA503A, fluoranthene exceeded EC by one order of magnitude.<br>At two locations, R71204 and STP71602, benzo(g,h,i)perylene exceeded EC by an order of magnitude.<br>At two locations, R71203 and R71204, copper exceeded EC by less than one order of magnitude.<br><br>Groundwater-GI:<br><br>Copper, nickel and zinc exceeded EC by up to an order of magnitude at both CP71302 and R71301.<br>At CP71302, naphthalene and cyanide exceeded EC by less than one order of magnitude, anthracene by one order of magnitude and<br>fluoranthene by two orders of magnitude. | The PAH compounds detected in both leachate and one of the GI groundwater samples may be attributed to localised occurrence in soils related to former site use or conditions across this area. Similarly, the cyanide detected in the groundwater sample may also relate to these sources. However, as the potential distance to the River Till in the inferred direction of groundwater flow is over 1.2km the detected concentrations are not considered to pose an unacceptable risk to surface water at this receptor.<br><br>The copper, nickel and zinc detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to surface water receptors from these determinands is considered to be low. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| CL021 - Pump House (and associated former Covered Reservoir - potentially infilled) | 170m from the proposed road alignment | One groundwater monitoring programme location was at this site. | No works planned within CL021 (as it is located outside/bordering the Scheme boundary).<br>Closest works are immediately south:<br>PW – Immediately north of archaeological mitigation (SMR).<br>Water pipeline installation (trenching).<br>MW – Return to agriculture. | Groundwater monitoring programme:<br><br>For groundwater samples collected at this site from SU04/Windmill, zinc exceeded EC by up to two orders of magnitude. | The zinc detected in groundwater are up to an order of magnitude above the BGS background data for the Chalk groundwater. However, as this was the only determinand to exceed EC at this location, noting the absence of works planned at this site that could result in further disturbance of soils, and based on the potential distance to the River Till in the inferred direction of groundwater flow (over 2km), the detected concentrations are not considered to pose an unacceptable risk to surface water at this receptor. |
| CL025 - Former Larkhill Military Light Railway (Dismantled) | Overlaps with the proposed road alignment | One groundwater monitoring programme location was in close proximity to this site. | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation adjacent to cutting, redundant A303 (which is not PRoW, and PRoW verges). | Groundwater monitoring programme:<br><br>For groundwater samples collected in close proximity to this site from well W1, copper exceeded EC by up to one order of magnitude and zinc and iron by less than one order of magnitude. | The copper, iron and zinc detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to surface water receptors from these determinands is considered to be low. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| CL028 - Rollestone Camp | Close proximity to the proposed road alignment but not actually overlapping | One groundwater monitoring programme location was immediately down-inferred hydraulic gradient of the site. | No works proposed within the potential contaminated site (outside/bordering the Scheme).<br>Closest works are immediately south:<br><br>PW – Archaeological mitigation (AER).<br>Realignment of Rollestone cross (highways works)/removal of redundant A360 (under AMR).<br>Return to agriculture. | Groundwater monitoring programme:<br><br>For groundwater samples collected at this site from RX630, iron exceeded EC by less than one order of magnitude. | The recorded iron concentration is below the maximum background level for Chalk groundwater and considered to reflect background conditions across the area. |
| CL033 - Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range | Close proximity to the proposed road alignment but not overlapping. | One groundwater monitoring programme location was immediately down-inferred hydraulic gradient of the site. | No works proposed within the potential contaminated site (outside/bordering the Scheme).<br>Closest works are south of The Packway:<br><br>PW – Archaeological mitigation (AER).<br>Realignment of Rollestone cross (highways works)/removal of | Groundwater monitoring programme:<br><br>For groundwater samples collected at this site from RX630, iron exceeded EC by less than one order of magnitude. | The recorded iron concentration is below the maximum background level for Chalk groundwater and considered to reflect background conditions across the area. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| | | | redundant A360 (under AMR).<br>Return to agriculture. | | |
| CL034 - Pig Farm (Longbarrow Roundabout) | Overlaps onto the proposed road alignment | One soil leachate sample was obtained within CL034.<br>One groundwater monitoring programme location was at this site. | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation adjacent to cutting, redundant A303 (which is not PRoW, and PRoW verges). | Soil leachate:<br><br>Fluoranthene and benzo(g,h,i)perylene exceeded EC by one order of magnitude at R71803.<br><br>Groundwater monitoring programme:<br><br>For groundwater samples collected at this site from well W1, copper exceeded EC by up to one order of magnitude and iron and zinc by less than one order of magnitude. | The PAH compounds detected in soil may be attributed to the former site use. However, these determinands were not detected in groundwater samples collected at this site. Also, given the potential distance to the River Till in the inferred direction of groundwater flow (over 2.5km) the detected concentrations are not considered to pose an unacceptable risk to surface water at this receptor.<br>The copper, iron and zinc detected in groundwater are generally within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area and the risk to surface water receptors from these determinands is considered to be low. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| Outside potential contaminated sites | - | Two soil leachate samples were obtained outside contaminated land sites within Area 2 but within the Scheme boundary. | General works in Area 2 include: Longbarrow Junction, including Longbarrow cutting (west, central and east), Longbarrow dumbbell (north and south), New Longbarrow junction eastern and western merge, New Longbarrow junction eastern and western diverge, realigned A360 north and south, Green Bridges 3 and 4. There is also a proposed corridor for utility connection, the cutting approach to the western portal and Rollestone Junction | Soil leachate:<br><br>At R71202, fluoranthene and benzo(g,h,i)perylene exceeded EC by an order of magnitude, whilst copper exceeded EC by less than order of magnitude.<br><br>At STP71402, fluoranthene exceeded EC by an order of magnitude, whilst copper, zinc, lead, and cyanide exceeded EC by less than an order of magnitude. | The PAHs compounds detected in soil may be attributed to localised occurrence related to general conditions across the area. Given the distance to the River Till in the inferred direction of groundwater flow (approximately 2m) these are not considered to pose an unacceptable risk to surface water at this receptor.<br><br>The copper, zinc and lead concentrations detected in groundwater are within the range of the BGS background data for the Chalk groundwater. These are considered to reflect background conditions across the area.<br><br>The cyanide detected only marginally exceeded the EC (1.9µg/l compared the EC of 1µg/l) and so does not indicate an unacceptable risk from this determinand at this location. |

****In relation to the proposed road alignment itself (not the Scheme boundary)*

## E.3 Controlled waters (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)

### General

E.3.1.1 The identified groundwater receptors in Area 2 include the following groundwater bodies:

- Chalk Principal aquifer, present across the area and considered the critical groundwater receptor.
- Superficial Secondary A aquifer - localised Head Deposits (where these consist of gravel).
- Secondary (undifferentiated) aquifer - Head Deposits (comprising clay, silt, sand, and gravel)).

E.3.1.2 Four licensed groundwater abstractions from the Chalk were identified within 1km of the Scheme in Area 2:

- Oatlands Hill, Winterbourne Stoke - located within CL018, but approximately 520m south west and down-inferred hydraulic gradient of the Scheme boundary within CL018.
- Airman's Corner - boreholes A and B are located approximately 1.7km south and down-inferred hydraulic gradient of CL028 and CL033 (both of which are located adjacent to but outside of the Scheme area).
- Druid's Lodge - located approximately 460m south west and down-inferred hydraulic gradient of CL023 (outside the Scheme boundary).
- Manor Farm – Well 1 was Located approximately 820m south and down-inferred hydraulic gradient of CL028 and 840m from CL033 (both of which are located adjacent to but outside of the Scheme area). Well 3 was located within potential contaminated site CL021.

E.3.1.3 No SPZ were identified within 1km of the Scheme in Area 2.

### Comparison of groundwater EC against soil leachate and groundwater results

E.3.1.4 The laboratory results from the eight soil leachate samples and two groundwater samples collected from Area 2 during the ground investigations were screened against the groundwater EC as per the GQRA methodology described in Appendix C. The samples collected are listed in Table 5-2 and the analysis undertaken on these samples is presented within Table 5-6, both in Section 5 within the main text of the report. These were supplemented with 12 samples collected during the groundwater monitoring programme (described in Table 5-9).

E.3.1.5 Further details of the samples included in the assessment, relative to the potential contaminated sites and the Scheme boundary are described Section E2 above.

E.3.1.6 The results of the screening of the laboratory soil leachate data are presented in Appendix H and summarised in Table E-6. These indicate that

the following numbers of soil leachate samples analysed within Area 2 were detected at concentrations above their respective EC protective of a groundwater receptor.

**Table E-6 Area 2: groundwater evaluation criteria exceedances for soil leachate data**

| Determinand | Units | EC protective of groundwater | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Iron | µg/l | 200 | 6 | 5 | 400 | 2 |
| Manganese | µg/l | 50 | 7 | 6 | 120 | 1 |
| Phosphorus | µg/l | 0.4 | 3 | 3 | 177 | 3 |
| Phosphorus (filtered) | mg/l | 0.0004 | 6 | 4 | 0.12 | 4 |

E.3.1.7 The results of the screening of the laboratory groundwater data are presented in Appendix H and summarised in Table E-7. These indicate that the following numbers of groundwater samples analysed within Area 2 were detected at concentrations above their respective EC protective of a groundwater receptor.

**Table E-7 Area 2: groundwater evaluation criteria exceedances for groundwater data**

| Determinand | Units | EC protective of groundwater | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Naphthalene | µg/l | 6 | 2 | 2 | 9 | 1 |
| Phenanthrene | µg/l | 4 | 2 | 2 | 7 | 1 |
| Phosphorus (Filtered) | µg/l | 0.4 | 2 | 2 | 80 | 2 |
| Nitrite (as NO2-) | mg/l | 0.5 | 2 | 1 | 8.9 | 1 |

### Summary of risks to groundwater (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)

E.3.1.8 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 2, are presented in the following table (E-8). Where EC have been exceeded, the level of risk to groundwater receptors has been assessed and is summarised in the table.

E.3.1.9 Whilst naphthalene and phenanthrene were detected in groundwater at CP71302 they were not detected in soil leachate at site CL018, and could reflect background conditions across Area 2, rather than be attributed to

activities associated with the Former RAF Oatlands Hill. The exceedances of EC were also marginal. The detected levels of these determinands in soil at this site are not considered to pose an unacceptable risk to groundwater.

E.3.1.10 The phosphorus, iron and manganese concentrations detected in soil leachates and groundwater across Area 2 are generally within the range of BGS background data and are consistent with Chalk groundwater across the Scheme area. Based on this, they are not considered to pose an unacceptable risk to groundwater.

E.3.1.11 The exception is groundwater well W1, located within site CL034. Here, phosphorus concentrations exceeded the EC by up to four orders of magnitude and are greater than the maximum BGS background value for Chalk groundwater in 75% of the samples collected. However, the filtered (dissolved) phosphorus concentrations are all within the range reported by the BGS and are up to two orders of magnitude lower than (total) phosphorus in the relevant sample, suggesting the risk to groundwater is not as high as initially indicated by the total phosphorus data.

E.3.1.12 Given the elevated phosphorus levels detected in groundwater at CL034 and as the current land use (farming) is a potential source and limited leachate data has been obtained, the level of risk posed from phosphorus in soil at site CL034 to groundwater is currently uncertain. Further assessment of this risk may be necessary either in advance of the works or through development of criteria and a procedure for testing of soils excavated in this area during the works, prior to re-use. The collection of addition soil leachate samples may be required to refine the potential risk to groundwater.

E.3.1.13 The nitrate and nitrite concentrations detected in groundwater are attributed to general agricultural land-use across the Scheme area, rather than from soils at specific potential contaminated sites.

**Table E-8 Area 2 – Summary of risk to groundwater (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)**

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| CL018 - Former RAF Oatlands Hill (1941 - 1946) | Overlaps onto the proposed road alignment | Five samples were obtained within CL018.<br>Both of the two groundwater samples were obtained within CL018. | A large portion of CL018 is unaffected by any works.<br><br>PW – Archaeological mitigation (AER, SMR and AMR (removal of the existing A303)).<br>Badger sett closures on the southern embankment of the existing A303.<br>SSEN cable installation (trenching and HDD launch pit location).<br><br>MW – Removal of the existing A303.<br>New Longbarrow junction – dumbbells, slip roads and mainline within cutting.<br>Calcareous grassland creation on verges / cuttings.<br>Return to agriculture. | Soil leachate<br><br>All locations tested at this site exceeded the EC for phosphorous (including phosphorus – filtered) by up to three orders of magnitude.<br><br>STP71602 exceeded the EC for iron by less than an order of magnitude and R71204 exceeded the EC for cyanide by one order of magnitude.<br><br>Groundwater – GI:<br><br>Both locations tested at this site exceeded the EC for phosphorus by up to two orders of magnitude.<br><br>CP71302 exceeded EC for naphthalene and phenanthrene by less than one order of magnitude and nitrite by one order of magnitude. | The phosphorus detected in soil and groundwater at this site, and nitrite in groundwater, are not considered to pose an unacceptable risk to groundwater, based on:<br>The recorded phosphorus concentrations do not exceed the BGS background maximum value and are considered consistent with Chalk groundwater across the Scheme area.<br>Whilst the nitrite concentrations detected in groundwater are higher than the BGS regional maximum at both locations by approximately two orders of magnitude, they are attributed to general agricultural land-use across the Scheme.<br>Naphthalene and phenanthrene detected in groundwater at CP71302 were not detected in soil leachate, and could reflect background conditions across Area 2, rather than be attributed to activities associated with the Former RAF Oatlands Hill. The exceedances of EC were also marginal. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| CL021 - Pump House (and associated former Covered Reservoir - potentially infilled) | 170m from the proposed road alignment | One groundwater monitoring programme location was at this site. | No works planned within CL021 (as it is located outside/bordering the Scheme boundary). Closest works are immediately south.<br>PW – Immediately north of archaeological mitigation. Water pipeline installation (trenching).<br>MW – Return to agriculture. | Groundwater monitoring programme:<br><br>For groundwater samples collected from SU04/Windmill, phosphorus exceeded the EC by up to two orders of magnitude and nitrate marginally exceeded by less than an order of magnitude. | The phosphorus and nitrate detected in groundwater at this site are not considered to pose an unacceptable risk to groundwater, based on:<br>The recorded phosphorus concentrations are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area.<br>Although the marginal nitrate exceedance is higher than the BGS regional maximum, it is attributed to general agricultural land-use across the Scheme area. |
| CL025 - Former Larkhill Military Light Railway (Dismantled) | Overlaps with the proposed road alignment | One groundwater monitoring programme location was in close proximity to this site. | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation adjacent to cutting, redundant A303 (which is not PRoW, and PRoW verges). | Groundwater monitoring programme:<br><br>Samples collected at W1 exceeded the EC for phosphorus by up to four orders of magnitude.<br>One sample exceeded the EC for iron by one order of magnitude.<br><br>Two samples collected at W1 marginally exceeded the EC for | Whilst phosphorus concentrations exceeded the maximum BGS background value for Chalk groundwater in 75% of the samples collected, the filtered (dissolved) phosphorus concentrations are all within the range reported by the BGS and up to two orders of magnitude lower than (total) phosphorus in the relevant sample.<br><br>The recorded nitrate concentrations are higher than the BGS regional maximum, however, the exceedance |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | | nitrate by less than one order of magnitude. | of EC is only marginal and limited to two of the eight samples collected.<br><br>These determinands are considered indicators of more diffuse sources present across the area (agricultural use) and not likely to be related to the historical military railway.<br><br>The iron concentrations detected are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area.<br><br>On the basis of the above, the above determinands reviewed in relation to this site are not considered to pose an unacceptable risk to groundwater. |
| CL028 - Rollestone Camp | Close proximity to the proposed road alignment but not actually overlapping | One groundwater monitoring programme location was immediately down-inferred hydraulic gradient of the site. | No works proposed within the potential contaminated site (outside/bordering the Scheme).<br><br>Closest works are immediately south:<br><br>PW – Archaeological mitigation (AER). | Groundwater monitoring programme:<br><br>The location tested, RX630, exceeded the EC for phosphorus by three orders of magnitude and the EC for iron by an order of magnitude. | The recorded phosphorus and iron concentrations are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area. Based on this, they are not considered to pose an unacceptable risk to groundwater. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | Realignment of Rollestone cross (highways works)/removal of redundant A360 (under AMR).<br>Return to agriculture. | | |
| CL033 - Larkhill (Former Aerodrome and Current Royal School of Artillery) - Artillery Range | Close proximity to the proposed road alignment but not overlapping | One groundwater monitoring programme location was immediately down-inferred hydraulic gradient of the site. | No works proposed within the potential contaminated site (outside/bordering the Scheme).<br>Closest works are south of The Packway:<br><br>PW – Archaeological mitigation (AER).<br>Realignment of Rollestone cross (highways works)/removal of redundant A360 (under AMR).<br>Return to agriculture. | Groundwater monitoring programme:<br><br>The location tested, RX630, exceeded the EC for phosphorus by three orders of magnitude and the EC for iron by an order of magnitude. | The recorded phosphorus and iron concentrations are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area. Based on this, they are not considered to pose an unacceptable risk to groundwater. |
| CL034 - Pig Farm (Longbarrow Roundabout) | Overlaps onto the proposed road alignment | One soil leachate sample was obtained within CL034.<br>One groundwater monitoring programme location was at this site. | PW – Archaeological mitigation (AER).<br><br>MW – New A303 alignment within cutting.<br>Removal of the existing A303 (under | Soil leachate:<br><br>No exceedance of EC were recorded for the location tested at this site, R71803 .<br><br>Groundwater monitoring programme: | As discussed in relation to site CL025, the levels of phosphorus, nitrate and iron detected in groundwater from well W1 are thought likely to reflect background levels or more diffuse sources across the area, rather than impacts at a specific location. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | AMR)/conversion to PRoW.<br>Calcareous grassland creation adjacent to cutting, redundant A303 (which is not PRoW, and PRoW verges). | Samples collected at W1 exceeded the EC for phosphorus by up to four orders of magnitude.<br>One sample exceeded the EC for iron by one order of magnitude.<br>Two samples collected at W1 marginally exceeded the EC for nitrate by less than one order of magnitude. | No determindands were detected at concentrations above EC in the soil leachate sample from this location.<br><br>However, only one soil leachate sample has been collected to date. Given this and the elevated phosphorus levels detected in groundwater and as the current land use (farming) is a potential source, the localised level of risk posed from phosphorus in soil at CL034 to groundwater is currently uncertain.<br><br>The iron and nitrate levels detected are not considered to pose an unacceptable risk to groundwater. |
| Outside potential contaminated sites | - | Two soil leachate samples were obtained outside contaminated land sites within Area 2 but within the Scheme boundary. | General works in Area 2 include: Longbarrow Junction, including Longbarrow cutting (west, central and east), Longbarrow dumbbell (north and south), New Longbarrow junction eastern and western merge, New Longbarrow junction eastern and western diverge, realigned A360 north and south, | Soil leachate:<br><br>At STP71402, iron exceeded the EC by less than an order of magnitude, whilst manganese exceeded EC by an order of magnitude. | The recorded iron and manganese concentrations are within the range of BGS background data and are considered consistent with Chalk groundwater across the Scheme area. Based on this, they are not considered to pose an unacceptable risk to groundwater. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | Green Bridges 3 and 4. There is also a proposed corridor for utility connection, the cutting approach to the western portal and Rollestone Junction | | |

****In relation to the proposed road alignment itself (not the Scheme boundary)*

# Appendix F Area 3 Western Tunnel Portal to Eastern Tunnel Portal - GQRA

## F.1 Human health (current and future site users)

### Comparison of human health EC against soil results

F.1.1.1 The laboratory results from the 32 soil samples sampled from Area 3 were screened against the human health EC for a public open space (park) end use as per the GQRA methodology described in Appendix C. The analysis undertaken on these samples is presented within Table 5-7, Section 5 within the main text of the report.

F.1.1.2 A total of 11 soil samples were obtained from within CL035 (Former RAF Stonehenge (1917 - 1921). As CL036 is located within CL035 of the 11 soil samples, nine are also located within CL036 (Former Stonehenge Pedigree Stock Farm (1924 - 1926).

F.1.1.3 A total of 11 soil samples were obtained outside the potential contaminated sites but were within the Scheme boundary.

F.1.1.4 A total of 10 soil samples were obtained from outside the potential contaminated sites and outside of the Scheme boundary.

F.1.1.5 The locations where soil samples have been undertaken are presented in Figure 4C.

F.1.1.6 The human health GQRA screening table for Area 3 is presented in Appendix H.

F.1.1.7 Screening of laboratory soil testing data indicates that all soil samples analysed within Area 3 were detected at concentrations less than their respective EC designed to be protective of human health within a public open space (park) end-use.

F.1.1.8 In total, 18 soil samples in Area 3 were screened for the presence of asbestos. All the samples were obtained from outside of the potential contaminated sites. Four of them were obtained along the Scheme alignment or in its close proximity (<40m) from where ground disturbance is likely to occur during the preliminary and/or main works.

### Summary of risk to human health

F.1.1.9 Based on the results of the human health GQRA, undertaken on available soil samples obtained from Area 3, it is concluded that there is unlikely to be an unacceptable risk to human health from the soils samples within Area 3. Whilst this supports the initial CSM, and the typically low and very low risks identified, it should be acknowledged that the GQRA has been based on limited sampling data. The eastern section of Area 3 presents a very limited number of exploratory holes and chemical sampling data.

F.1.1.10 The concentrations observed from the soils within Area 3 as a whole are generally low and those samples obtained from CL035 and CL036 were

noted to be below detection limits for the majority of the determinands analysed.

F.1.1.11 Table F-1 below present the summary of risk to human health within Area 3 based on the available data and their distribution in relation to the potential contaminated sites.

F.1.1.12 Further discussion on recommended additional assessment that may be required based on level of risk reported, and the nature of planned construction work, in relation to the potential contaminated sites is presented within Section 8 of the main report.

## Table F-3 Area 3 Western Tunnel Portal to Eastern Tunnel Portal– summary of risk to human health

| Name and reference | Distance from the proposed road alignment *** | Ground Investigation data | Planned construction activity | Summary of exceedances of human health Evaluation Criteria | Summary risks to human health |
|---|---|---|---|---|---|
| CL035 - Former RAF Stonehenge (1917 - 1921) | Overlaps onto the proposed road alignment | 11 samples obtained within CL035 boundary | MW – Tunnel passes below area. Removal of the existing A303 (under AMR)/conversion to PRoW. Calcareous grassland creation along PRoW verges. | No exceedances of human health EC detected. | Risk to human health is acceptable. |
| CL036 - Former Stonehenge Pedigree Stock Farm (1924 - 1926) | Overlaps onto the proposed road alignment | Nine samples obtained within CL036 boundary | MW – Tunnel passes below area. Removal of the existing A303 (under AMR)/conversion to PRoW. Calcareous grassland creation along PRoW verges. | No exceedances of human health EC detected. | Risk to human health is acceptable. |
| Outside potential contaminated sites but within Scheme boundary | - | 11 samples were obtained outside the potential contaminated sites but were within the Scheme boundary | General works in Area 3 include: Canopy approach to western portal and Western PortaL tunnel construction, eastern portal and Stonehenge road converted to byway and private means of access. | No exceedances of human health EC detected. | Risk to human health is acceptable. |
| Outside potential contaminated sites and outside Scheme boundary | - | 10 samples obtained outside the potential contaminated sites and outside of the Scheme boundary | Outside the Scheme | No exceedances of human health EC detected. | Risk to human health is acceptable. |

****In relation to the proposed road alignment itself (not the Scheme boundary)*

F.1.1.13 Based on the planned construction activities, only CL035 (Former RAF Stonehenge) and CL036 (Former Stonehenge Pedigree Stock Farm) are likely to result in ground disturbance. A dense coverage of ground investigation has been undertaken at both these sites where they overlap and in proximity of the Scheme.

F.1.1.14 All but one of the potential contaminated land sites within Area 3 were assessed to have only low or very low risks to human health in the initial CSM (Table 4-8). Those with low or very low risks to human health included:

- CL036 Former Stonehenge Pedigree Stock Farm (1924 - 1926);
- CL037 Former Sewage Outfall (disused 1924, removed 1970); and
- CL039 Disused Tip (1974).

F.1.1.15 Of these three sites the following observations are also relevant in relation to the nature of the planned works:

- CL037 and CL039 have no construction work planned on the site and no work planned within 50m.

F.1.1.16 Based on Table 4-8 and Figure 2C, construction activity and ground disturbance is planned to take place on CL036 (low risks identified). This includes the tunnel passing beneath the potential contaminated site with associated removal of the existing A303 under AMR and its conversion to a PRoW.

F.1.1.17 CL035 (Former RAF Stonehenge 1917-1921) was assessed to have moderate/low risks to human health in the initial CSM (Table 4-8). The risks were to off-site public open space receptors. The planned construction activity and ground disturbance beneath and at CL035 is the same as CL036.

F.1.1.18 No ground investigation works have currently been undertaken within or adjacent the CL037 and CL039, which were assessed as very low to low risks to human health and no construction works are planned on site of within 50m these sites. The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

## F.2 Controlled waters (surface water – River Avon)

### General

F.2.1.1 Whilst no surface water receptors have been identified in Area 3, risks to the River Avon have been assessed based on migration via an intermediate groundwater pathway.

F.2.1.2 Groundwater in the Chalk aquifer flows in a generally southerly direction with flow at high groundwater levels converging on the River Till in the west of the Scheme area and towards the River Avon in the east, creating a groundwater divide between the two rivers. The inferred flow in Area 3 is towards the River Avon.

F.2.1.3 The groundwater discharges as baseflow to the river, although the input of groundwater may be reduced or reversed during periods of low groundwater levels.

F.2.1.4 The risk to the river from the potential contaminated sites is via this intermediate groundwater pathway. However, the River Avon is over 450m along the inferred flow path from the Scheme boundary in Area 3 and is 2.2km from the closest potential contaminated site, CL029.

F.2.1.5 Whilst no springs were identified within 1km of the Scheme within the boundaries of Area 3, those at West Amesbury (including Gallows Hill) inside Area 4 are located down-hydraulic gradient. These springs are 680m to 800m in the inferred direction of groundwater flow from the Scheme boundary in Area 3. However, no potential contaminated sites in Area 3 are located up-gradient of the springs.

F.2.1.6 No licensed surface water abstractions were identified within 1km of the Scheme in Area 3.

### Comparison of surface water EC against soil leachate and groundwater results

F.2.1.7 The laboratory results from the 24 soil leachate samples and 11 groundwater samples collected from Area 3 during the previous ground investigations were screened against the surface water EC in accordance with the GQRA methodology described in Appendix C. The samples collected are listed in Table 5-3 and the analysis undertaken on these samples is presented within Table 5-7, both in Section 5 within the main text of the report.

F.2.1.8 Of the 24 soil leachate samples, none were obtained within the potential contaminated sites. Twenty samples were obtained outside the potential contaminated sites within Area 3 but within the Scheme boundary and the remaining four were obtained outside contaminated land areas, and outside the Scheme boundary.

F.2.1.9 Of the 11 groundwater samples, seven samples were obtained outside potential contaminated sites within Area 3, but within the Scheme boundary and one was obtained outside contaminated land and outside of the Scheme boundaries. The remainder were collected from within the following potential contaminated sites:

- one groundwater sample was obtained within CL035; and
- two groundwater samples were obtained within CL035 and CL036.

F.2.1.10 In addition, 46 groundwater samples collected from five wells between 2018 and 2021 during the groundwater monitoring programme were also reviewed during the assessment. The analysis undertaken on these samples is presented within Table 5-9, Section 5 within the main text of the report. These include samples taken down-inferred hydraulic gradient of sites CL035 and CL036.

F.2.1.11 The results of the screening of the laboratory soil leachate data are presented in Appendix H and summarised in Table F-4. These indicate that the following numbers of soil leachate samples analysed within Area 3 were

detected at concentrations above their respective EC protective of a surface water receptor.

**Table F-4 - Area 3: surface water evaluation criteria exceedances for soil leachate data**

| Determinand | Units | EC protective of surface water | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Fluoranthene | µg/l | 0.0063 | 6 | 2 | 0.02 | 2 |
| Copper | µg/l | 1 | 6 | 4 | 3.17 | 4 |
| Zinc | µg/l | 10.9 | 6 | 6 | 13 | 1 |

F.2.1.12 The results of the screening of the laboratory groundwater data are presented in Appendix H and summarised in Table F-5. These indicate that the following numbers of groundwater samples analysed within Area 3 were detected at concentrations above their respective EC protective of a surface water receptor.

**Table F-5 - Area 3: surface water evaluation criteria exceedances for groundwater data**

| Determinand | Unit | EC protective of surface water | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Fluoranthene | µg/l | 0.0063 | 11 | 3 | 0.04 | 2 |
| Benzo(a) pyrene | µg/l | 0.00017 | 11 | 1 | 0.00598 | 1 |
| Copper | µg/l | 1 | 6 | 6 | 20 | 6 |
| Copper (Filtered) | µg/l | 1 | 5 | 5 | 3 | 4 |
| Iron | µg/l | 1,000 | 4 | 4 | 3630 | 1 |
| Lead | µg/l | 1.2 | 6 | 4 | 13 | 1 |
| Nickel | µg/l | 4 | 6 | 4 | 4 | 1 |
| Nickel (Filtered) | µg/l | 4 | 5 | 5 | 12 | 3 |
| Zinc | µg/l | 10.9 | 6 | 6 | 35 | 2 |
| Zinc (Filtered) | µg/l | 10.9 | 5 | 5 | 28 | 3 |
| Cyanide Total | mg/l | 0.001 | 6 | 1 | 0.6 | 1 |

## Summary of risks to surface water (River Avon)

F.2.1.13 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 3, are presented in Table F-6.

F.2.1.14 Where EC have been exceeded, the level of risk to surface water receptors has been assessed and is summarised in the table.

F.2.1.15 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites and elsewhere across the Scheme in Area 3 indicate that the risk to the River Avon is considered to be low and thus acceptable. The potential distance to the River Avon in the inferred direction of groundwater flow is 2km from the potential contaminated sites (CL035 and CL036). Therefore, the detected concentrations of PAHs, metals and inorganics which exceeded the EC protective of surface water within these locations are not considered to pose an unacceptable risk to surface water at this receptor.

F.2.1.16 Generally, the PAH (fluoranthene), metals and inorganics concentrations detected within Area 3 are considered to reflect background groundwater conditions.

F.2.1.17 Elevated concentrations of PAH (fluoranthene) detected within the groundwater within CL035 is considered a localised exceedance. Fluoranthene was not detected within the groundwater monitoring programme sampling wells within Area 3. However, it should be noted that soil leachate data has not been obtained from the soils within CL035.

F.2.1.18 The copper and zinc exceedances within groundwater within CL035 are noted to be within BGS background range. Although nickel was detected marginally above BGS background range, the level of exceedance was generally low.

F.2.1.19 Within the remainder of locations outside of the potential contaminated sites within Area 3, copper and nickel exceedances within the soil leachates and nickel, zinc and iron in groundwater were detected to be in the BGS background range for the Chalk aquifer. Copper and lead were detected to be one order of magnitude greater that the BGS range within the groundwater.

F.2.1.20 There is no BGS background data for cyanide, which also locally exceeded the EC. However, this determinand was only detected in groundwater in a sample from 2001 and then one sample from the groundwater monitoring programme. The other ground investigation and groundwater monitoring programme samples did not contain cyanide at concentrations greater than detection limit within the groundwater.

## Table F-6 - Area 3 Western Tunnel Portal to Eastern Tunnel Portal: summary of risk to surface water (River Avon)

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| CL035 - Former RAF Stonehenge (1917 - 1921) | Overlaps onto the proposed road alignment | Groundwater – GI:<br><br>One sample was obtained within CL035.<br>Two samples were obtained within CL035 and CL036.<br>No soil leachate data.<br><br>Groundwater monitoring programme:<br><br>One sample was obtained on the boundary of CL035.<br>A further three samples were collected down-inferred hydraulic gradient of CL035 and CL036. | MW – Tunnel passes below area.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation along PRoW verges. | Groundwater – GI:<br>For groundwater samples collected at this site, two locations exceeded EC for fluoranthene by one order of magnitude and for copper, nickel, and zinc by less than one order of magnitude.<br>Groundwater monitoring programme:<br>The majority of the groundwater samples collected at RX634, PX505A, PX505A and R503B exceeded the EC for iron and for zinc by up to one order of magnitude and that for copper by up to three orders of magnitude. | The PAHs, metals and inorganics detected at concentrations above EC are not considered to pose an unacceptable risk to the River Avon. Generally, the concentrations detected are considered to reflect background conditions. The River Avon is also 2km from CL035 reducing the likelihood of contamination reaching the river, via migration of groundwater, at concentrations which may impact surface water in the River Avon.<br><br>The PAH (fluoranthene) in the groundwater sampled during the GI is a localised exceedance. Fluoranthene was not detected within the groundwater monitoring programme sampling wells within Area 3. It should be noted that soil leachate data has not been obtained from within CL035.<br><br>The copper and zinc exceedances within groundwater within CL035 are noted to be within the BGS background range. Although nickel was detected marginally above the |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| | | | | | BGS background range, the level of exceedance was generally low.<br>Within the groundwater monitoring programme wells within Area 3, copper was noted to be up to one order of magnitude above the BGS background range of the Chalk aquifer, with both iron and zinc generally being within the BGS background range. |
| CL036 - Former Stonehenge Pedigree Stock Farm (1924 - 1926) | Overlaps onto the proposed road alignment | Groundwater – GI:<br><br>Two samples were obtained within CL035 and CL036.<br>No soil leachate data.<br><br>Groundwater monitoring programme:<br><br>Three samples were collected down-inferred hydraulic gradient of CL035 and CL036. | MW – Tunnel passes below area.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation along PRoW verges. | Groundwater – GI:<br><br>For groundwater samples collected at this site, R71904 exceeded the EC for fluoranthene by one order of magnitude.<br>All locations exceeded EC for copper, nickel, and zinc by less than one order of magnitude.<br><br>Groundwater monitoring programme:<br><br>The majority of the groundwater samples collected at PX505A, PX505A and R503B exceeded the EC for iron and for zinc by up to one order of magnitude and that for copper by up to three orders of magnitude. | Given CL036 is located within CL035, the summary of risk to the River Avon is the same as that presented above for CL035. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| Outside potential contaminated sites | - | Soil leachate - GI:<br><br>20 samples were obtained outside potential contaminated land within Area 3 but within the Scheme boundary.<br><br>A further four samples were obtained outside potential contaminated sites within Area 3 and outside the Scheme boundary.<br><br>Groundwater GI:<br><br>Seven samples were obtained outside potential contaminated sites within Area 3 but within the Scheme boundary.<br><br>One sample was obtained outside potential contaminated sites | General works in Area 3 include: Canopy approach to western portal and Western PortaL tunnel construction, eastern portal and Stonehenge road converted to byway and private means of access. | Soil leachate - GI:<br><br>Two locations tested, R71915 and SA504 exceeded EC for fluoranthene by maximum one order of magnitude.<br>Four locations tested, P502B, P505, R71915 and R506A exceeded EC for copper by less than one order of magnitude.<br>One location tested at R506A exceeds EC for zinc by less than one order of magnitude.<br><br>Groundwater – GI:<br><br>PAH (benzo(a)pyrene) in R71905 exceeded the EC by one order of magnitude.<br>Copper at all locations tested except R79105 exceeded EC by up to an order of magnitude.<br>Iron only exceeded at R13, and lead and nickel at P1.<br>Zinc exceeded at P1 and P2.<br>Total cyanide exceeded EC at R13 by two orders of magnitude | The PAH, metals and inorganics detected at concentrations above EC are considered not to pose an unacceptable risk to the River Avon.<br><br>The PAH (fluoranthene and benzo(a)pyrene) detected in the GI soil leachate and groundwater samples are considered to be localised exceedances. Benzo(a)pyrene and fluoranthene were not detected within the groundwater monitoring programme wells within Area 3.<br><br>Copper and nickel exceedances within the soil leachates and groundwater were in the BGS background range for the Chalk aquifer. Similarly, zinc and iron exceedances within the groundwater were also within the BGS background range. However, lead was one order of magnitude greater that the BGS range but was only recorded at this concentration during the 2001 investigation.<br><br>There is no BGS background data for cyanide. However, this was only detected in groundwater in a |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| | | areas within Area 3 and outside the Scheme boundary.<br><br>Groundwater monitoring programme:<br><br>One well was located adjacent to those previously sampled during the GI. | | Groundwater monitoring programme:<br><br>The majority of the groundwater samples collected at RX633 exceeded the EC for iron and for zinc by up to one order of magnitude.<br>Four of the samples collected from RX633 exceeded the EC for copper by up to three orders of magnitude.<br>One sample marginally exceeded the EC for nickel, and another exceeded the EC for cyanide by an order of magnitude. | sample from 2001 and then one sample from the groundwater monitoring programme. The other ground investigation and groundwater monitoring programme samples did not contain cyanide at concentrations greater than detection limit within the groundwater.<br><br>Overall, the inorganic concentrations observed reflect the BGS background concentration range of the Chalk aquifer, with soil leachates exceedances for metals being marginal. Therefore, the inorganics within the soil leachate and groundwater do not pose an unacceptable risk on the River Avon. |

****In relation to the proposed road alignment itself (not the Scheme boundary)*

## F.3 Controlled waters (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)

### General

F.3.1.1 The identified groundwater receptors in Area 3 include the following groundwater bodies:

- Chalk Principal aquifer, present across the area and considered the critical groundwater receptor.
- Superficial Secondary A aquifer - localised Head Deposits (where these consist of gravel).
- Secondary (undifferentiated) aquifer - Head Deposits (comprising clay, silt, sand, and gravel).

F.3.1.2 No licensed groundwater abstractions were identified within 1km of the Scheme in Area 3.

F.3.1.3 No SPZ were identified within 1km of the Scheme within Area 3

### Comparison of groundwater EC against soil leachate and groundwater results

F.3.1.4 The laboratory results from the 24 soil leachate samples and 11 groundwater samples collected from Area 3 during the ground investigations were screened against the groundwater EC as per the GQRA methodology described in Appendix C. The samples collected are listed in Table 5-3 and the analysis undertaken on these samples is presented within Table 5-7, both in Section 5 within the main text of the report. These were supplemented with 46 samples collected during the groundwater monitoring programme (described in Table 5-9).

F.3.1.5 Further details of the samples included in the assessment, relative to the potential contaminated sites and the Scheme boundary are described in Section F2 above.

F.3.1.6 The results of the screening of the laboratory soil leachate data are presented in Appendix H and summarised in Table F-7. These indicate that the following numbers of soil leachate samples analysed within Area 3 were detected at concentrations above their respective EC protective of a groundwater receptor.

**Table F-7 – Area 3: groundwater evaluation criteria exceedances for soil leachate data**

| Determinand | Units | EC protective of groundwater | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Phosphorus | µg/l | 0.4 | 20 | 4 | 141 | 4 |
| Nitrite (as NO2-) | mg/l | 0.5 | 5 | 3 | 0.92 | 3 |

F.3.1.7 The results of the screening of the laboratory groundwater data are presented in Appendix H and summarised in Table F-8. These indicate that the following numbers of groundwater samples analysed within Area 3 were detected at concentrations above their respective EC protective of a groundwater receptor.

**Table F-8 – Area 3: groundwater evaluation criteria exceedances for groundwater data**

| Determinand | Unit | EC protective of groundwater | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Iron | µg/l | 200 | 4 | 4 | 3630 | 2 |
| Lead | µg/l | 10 | 6 | 4 | 13 | 1 |
| Manganese (Filtered) | µg/l | 50 | 5 | 4 | 110 | 2 |
| Phosphorus (Filtered) | µg/l | 0.4 | 5 | 3 | 84 | 3 |
| Cyanide Total | mg/l | 0.05 | 6 | 1 | 0.6 | 1 |
| Nitrate (as NO3-) | mg/l | 50 | 5 | 5 | 85.13 | 1 |
| Nitrate (as NO3-) (Filtered) | mg/l | 50 | 2 | 2 | 52.2 | 1 |
| Nitrite (as NO2-) | mg/l | 0.5 | 5 | 1 | 0.68 | 1 |

### Summary of risks to groundwater (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)

F.3.1.8 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 3, are presented in Table F-9.

F.3.1.9 Where EC have been exceeded, the level of risk to groundwater receptors has been assessed and is summarised in the table.

F.3.1.10 The concentrations for phosphorous, manganese and nitrate detected within the groundwater within Area 3, although exceeding the EC protective of groundwater, are generally noted to be within the BGS background range for the Chalk aquifer and are consistent with the Chalk groundwater concentrations across the Scheme area.

F.3.1.11 Although phosphorous was detected at concentrations marginally greater than the BGS background range, comparison of the filtered dissolved phosphorous concentrations indicated that these data reflected concentrations that were less than the background concentrations for the Chalk aquifer. Similarly, iron also marginally exceeded within the ground investigation locations, but as were detected within the BGS range within the groundwater monitoring programme locations, is still indicative of background concentrations and diffuse sources across the Scheme and not attributable to a particular potential contaminated site source.

F.3.1.12 The nitrate concentrations detected within the groundwater monitoring programme locations relevant in Area 3 were noted to be isolated only marginal exceedances against the EC and is likely to be reflective of the general agricultural use of the area.

F.3.1.13 The soil leachate exceedances identified for phosphorous were noted to be within the BGS background concentration range for the Chalk aquifer. Nitrite was only detected as marginal exceedances in soil locations outside of the Scheme boundary and only marginally inside 250m of the Scheme boundary.

F.3.1.14 Isolated groundwater exceedances of cyanide and nitrite were also detected within groundwater (groundwater monitoring programme locations). However, given the marginal exceedances detected and isolated occurrences, these are not considered to pose an unacceptable risk to groundwater receptors.

F.3.1.15 Based on the above, CL035 and CL036 are not considered to pose an unacceptable risk to groundwater. However, as CL036 is the site is former farm and there has been no soil leachate data obtained and nitrite and phosphorous have been detected within the groundwater within this site (which can been associated with agricultural use), it is recommended that testing of soils is undertaken from the area before re-use and the assessment is based on site-specific criteria.

**Table F-9 - Area 3 Western Tunnel Portal to Eastern Tunnel Portal: summary of risk to groundwater (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)**

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| CL035 - Former RAF Stonehenge (1917 - 1921) | Overlaps onto the proposed road alignment | Groundwater – GI:<br><br>One sample was obtained within CL035.<br>Two samples were obtained within CL035 and CL036.<br>No soil leachate data.<br><br>Groundwater monitoring programme<br><br>One sample was obtained on the boundary of CL035.<br>A further three samples were collected down-inferred hydraulic gradient of CL035 and CL036. | MW – Tunnel passes below area.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation along PRoW verges. | Groundwater – GI:<br><br>All locations tested at this site as part of the GI exceeded the EC for phosphorus by two orders of magnitude.<br>All locations except R71901, exceeded the EC for manganese by maximum one order of magnitude.<br>One location, R71903 exceeded the EC for nitrite by less than one order of magnitude.<br><br>Groundwater Monitoring programme:<br><br>Phosphorus exceeded the EC in the majority of samples collected by up to four orders of magnitude.<br>Iron exceeded the EC in the majority of samples | CL035 is not considered to pose an unacceptable risk to groundwater.<br>Although the concentrations of phosphorous, manganese and nitrate detected within the GI groundwater samples exceeded the EC protective of groundwater, they are noted to be within the BGS background range for the Chalk aquifer.<br>Within the groundwater monitoring programme wells, both iron and phosphorous were recorded to be an order of magnitude greater than the BGS background range for these determinands. However, it should be noted that the filtered (dissolved) phosphorous concentrations were all less than the BGS background for the Chalk aquifer.<br>The iron and phosphorus levels detected are considered to be indicative of background concentrations and diffuse sources across the Scheme.<br>The nitrate concentrations detected within the groundwater monitoring programme wells in Area 3 were noted to be isolated, marginal exceedances of |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | | collected by up to three orders of magnitude.<br>Nine of the 44 samples collected contained nitrate at levels within an order of magnitude of the EC. | the EC and likely to be reflective of the general agricultural land use in the Scheme area. |
| CL036 - Former Stonehenge Pedigree Stock Farm (1924 - 1926) | Overlaps onto the proposed road alignment | Groundwater – GI:<br><br>Two samples were obtained within CL035 and CL036.<br>No soil leachate data<br><br>Groundwater monitoring programme:<br><br>Three samples were collected down-inferred hydraulic gradient of CL035 and CL036. | MW – Tunnel passes below area.<br>Removal of the existing A303 (under AMR)/conversion to PRoW.<br>Calcareous grassland creation along PRoW verges. | Groundwater – GI:<br><br>Both locations tested at this site, R71903 and R71904, exceeded EC for phosphorus by up to three orders of magnitude and manganese by up to an order of magnitude.<br>At R71903, nitrite exceeded the EC for by less than one order of magnitude.<br><br>Groundwater monitoring programme:<br><br>Phosphorus exceeded the EC in the majority of samples collected by up to four orders of magnitude.<br>Iron exceeded the EC in the majority of samples | Given CL036 is located within CL035, the overall risk to groundwater is as presented above for CL035.<br><br>However, as the site is former farm and there has been no soil leachate data obtained it is recommended that testing of soils is undertaken from the area before re-use, and assessment of suitability for re-use is based on site-specific assessment criteria. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | | collected by up to three orders of magnitude.<br>Eight samples collected contained nitrate at levels within an order of magnitude of the EC | |
| Outside potential contaminated sites | - | Soil leachate:<br><br>20 samples were obtained outside potential contaminated land within Area 3 but within the Scheme boundary.<br>A further four samples were obtained outside potential contaminated sites within Area 3 and outside the Scheme boundary.<br><br>Groundwater GI:<br><br>Seven samples were obtained outside potential | General works in Area 3 include: Canopy approach to western portal and Western PortaL tunnel construction, eastern portal and Stonehenge road converted to byway and private means of access. | Soil leachate:<br><br>Four locations, P502B, P505, R506A and R71915 exceeded the EC for phosphorous by up to three orders of magnitude.<br>Three locations, P502B, P505 and R506A exceeded the EC for nitrite by less than one order of magnitude.<br><br>Groundwater – GI:<br><br>Cyanide exceeded the EC by an order of magnitude in R13.<br>Iron exceeded the EC at P1 and R13 by up to an order of magnitude and | The soil leachate exceedances identified for phosphorous were noted to be within the BGS background concentration range for the Chalk aquifer. Nitrite was only detected as marginal exceedances in soil locations outside of the Scheme boundary and only marginally inside 250m of the Scheme boundary.<br><br>The cyanide exceedance within groundwater was an isolated detection and not considered to be a source of contamination which would impact on overall groundwater quality.<br><br>With regards to inorganic determinands which exceeded the EC as part of the ground investigation phases, iron was noted to be at concentrations that are within the BGS background concentrations for the Chalk aquifer. Nitrite and nitrate are all considered to |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | contaminated sites within Area 3 but within the Scheme boundary<br>One sample was obtained outside potential contaminated sites areas within Area 3 and outside the Scheme boundary.<br><br>Groundwater monitoring programme<br><br>One well was located adjacent to those previously sampled during the GI. | | lead marginally exceeded the EC at P1.<br>Nitrate marginally exceeded the EC in the samples from PX505A and R71915.<br><br>Groundwater monitoring programme:<br><br>Phosphorus exceeded the EC in each of the samples collected from RX633 by up to four orders of magnitude.<br>Iron exceeded the EC in each of the samples collected from RX633 by up to three orders of magnitude.<br>Cyanide exceeded the EC by an order of magnitude in one sample taken from RX633. | be marginal exceedances and thus are not considered to pose an unacceptable risk to groundwater.<br><br>As part of the groundwater monitoring programme, groundwater samples obtained also observed iron concentration to be within the BGS background concentration range, confirming that the iron concentrations detected are likely to be a reflection of general background conditions rather than a particular source within Area 3.<br>The phosphorous detected within these wells was noted to be up to one order of magnitude greater than the BGS background range. However, the filtered (dissolved) phosphorous at these located were recorded as less than mean of BGS background data for the Chalk aquifer. Therefore, the phosphorous is considered to reflect background conditions.<br>The cyanide exceedance was an isolated detection and not considered to be a source of contamination which would impact on overall groundwater quality. |

****In relation to the proposed road alignment itself (not the Scheme boundary)*

# Appendix G Area 4 Eastern Tunnel Portal to East of Countess Junction - GQRA

## G.1 Human health (current and future site users)

### Comparison of human health EC against soil results

G.1.1.1 The laboratory results from the 85 soil samples sampled from Area 4 were screened against the human health EC for a public open space (park) end use as per the GQRA methodology described in Appendix C. The analysis undertaken on these samples is presented within Table 5-8, Section 5 within the main text of the report.

G.1.1.2 The 85 samples were obtained and screened from the following locations:

- Two samples obtained within potential contaminated site CL041 (Former Quarry (1899 - 1961)) and two samples in 2m and 5m proximity north-east and south-west of the area, respectively;
- Three samples obtained within 15m proximity, north of the potential contaminated site CL050 (Pumping Station);
- Four samples obtained within 48m and 65m proximity east of potential contaminated site CL051 (Countess Filling Station);
- Two samples in 42m proximity south of potential contaminated site CL102 (Motor Works);
- 65 samples were obtained from outside the potential contaminated sites within Area 4 but within the Scheme area; and
- Seven samples were obtained from outside of the potential contaminated sites and outside of the Scheme boundary.

G.1.1.3 The locations where soil samples have been undertaken are presented in Figure 4D. The human health GQRA screening table for Area 4 is presented in Appendix H.

G.1.1.4 Screening of laboratory soil testing data indicates that individual speciated PAHs were reported at a concentration greater than their respective EC that are intended to be protective of human health in four of the 85 soil samples tested.

G.1.1.5 The location, depths and concentrations of these exceedances are presented in Table G-1 below.

**Table G-1 Human health Evaluation Criteria exceedances**

| Determinand | Evaluation Criteria (mg/kg) | CP72308 (0.2m bgl) (mg/kg) | CP72308A (0.2m bgl) (mg/kg) | TP2_CRI (0.5m bgl) (mg/kg) | TP4_CRI (0.6m bgl) (mg/kg) |
|---|---|---|---|---|---|
| Benz(a)anthracene | 49[1] | 58.7 - 67.6 | 60.9 - 63.6 | 6.02 | 45.2 |
| Benzo(a)pyrene | 21[2] | 49.9 - 56.7 | 56.8 - 58 | 7.64 | 43.8 |

| | | | | | |
|---|---|---|---|---|---|
| Dibenz(a,h)anthracene | 1.1[1] | 6.09 - 7.3 | 2.51 - 6.55 | 1.38 | 5.59 |
| Benzo(b)fluoranthene | 13[1] | 49.5 - 61.1 | 46.9 - 69.7 | 9.23 | 50.1 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | 4.4[1] | 56.7 | 58 | 7.64 | 43.8 |

EC exceedance

(1) LQM/CIEH S4ULs 2015

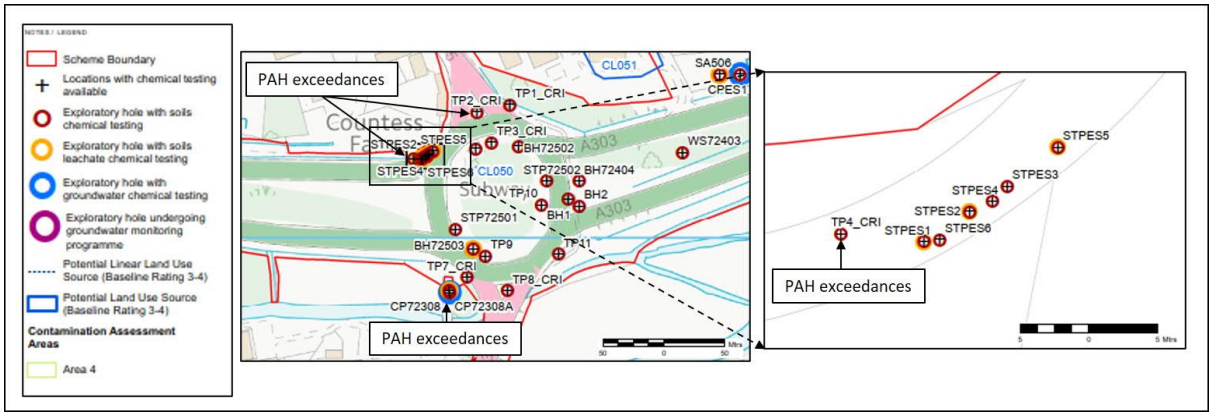
(2) Defra C4SL 12/2014

G.1.1.6 In total, 46 soil samples in Area 4 were screened for the presence of asbestos. Of the 46 samples, 39 were obtained along or in close proximity to the proposed route and are therefore likely to be affected by the works. However, asbestos was not detected in any of the samples analysed.

## Discussion

G.1.1.7 The identified PAH exceedances are all located in proximity of Countess Roundabout within the top 1m of the Made Ground. The four locations where exceedances were noted are all outside of the potential contaminated sites, with CP72308 and CP72308A located marginally outside of the Scheme boundary. The exceedance locations are presented in Figure G1 below.

**Figure G-1 Area 4: location of PAH exceedances at Countess Roundabout**




*Produced from Figure 4D in Appendix A*

G.1.1.8 PAH concentrations exceeding the relevant human health EC in trial pits TP2_CRI and TP4_CRI were recorded as part of the Countess Roundabout Improvement GI (2009). Gravel of ash and clinker with a strong hydrocarbon odour was noted locally in trial pit TP4_CRI (north-west part of the roundabout) between 0.6m and 0.8mbgl which extended horizontally for approximately 1.20m. This was attributed to a localised fuel spillage. No olfactory evidence of hydrocarbon impact was observed in the underlying Alluvium or in trial pit TP2_CRI (north part of the roundabout).

G.1.1.9 Exceedances of PAH in TP2_CRI and TP4_CRI were found to be generally marginal and within the same order of magnitude of the relevant EC for the individual PAHs. Further investigation of the PAH source was undertaken during the Phase 7B (2020) investigation. This was immediately east of TP4_CRI through the excavation of six hand dug trial pits (STPES1-6) towards CL051 (Countess Filling Station) No human health EC

exceedances were detected in the six trial pits and no visual or olfactory evidence of contamination was noted.

G.1.1.10 PAH concentrations exceeding the relevant human health EC in soils from boreholes CP72308 and CP72308A were also recorded during the Phase 7B GI (2020). The two boreholes are located south-west of the Countess Roundabout, adjacent but outside of the Scheme boundary. A strong hydrocarbon odour was noted in CP72308 between 0.15m and 0.3m bgl. However, no olfactory evidence of hydrocarbon impact was observed in the underlying Made Ground or Alluvium at this location. Similarly, no visual or olfactory contamination was noted within CP72308A, located approximately 2m south of CP72308. In both locations, the drilling encountered tarmacadam in the first 0.15m, followed by gravel with fragments of brick and tarmacadam up to a depth of 0.30m.

G.1.1.11 The exceedances of PAH in CP72308 and CP72308A were found to be generally marginal and within the same order of magnitude of the relevant EC. Again, given the location, these are likely to be attributable to the general tarmacadam road surfacing and road use and potential localised spillages associated with the A303 and Countess Roundabout road usage.

G.1.1.12 The calculated TPH Hazard Quotients (HQ) from the locations TPH was analysed in Area 1 were calculated in respect to assessment criteria for Public Open Space (park). All samples recorded the Hazard Index (HI) below 1.

### Summary of risk to human health

G.1.1.13 Based on the results of the human health GQRA, undertaken on available soil samples obtained from Area 4 it is concluded that there is unlikely to be an unacceptable risk to human health from the soils sampled within Area 4. Whilst this supports the initial CSM, and the typically low and very low risks identified, it should be acknowledged that the GQRA has been based on limited sampling data that does not cover the extent of Area 4 or a large proportion of the potential contaminated sites.

G.1.1.14 Concentrations of contaminants in soil samples obtained within and/or in proximity of the potential contaminated sites CL041, CL050 and CL102 did not exceed the relevant human health EC intended to be protective of a public open space (park) end use. Therefore, it is concluded that there is unlikely to be an unacceptable risk to human health from these potential contaminated sites.

G.1.1.15 Concentrations of PAH exceeding human health EC in soils outside the potential contaminated sites (CP72308, CP72308A, TP2_CRI and TP4_CRI) are marginal and generally within the same order of magnitude as the relevant EC. Evidence would suggest these exceedances are localised and most likely attributable to the road and road usage at Countess Roundabout.

G.1.1.16 Table G-2 below present the summary of risk to human health within Area 4 based on the available data and their distribution in relation to the potential contaminated sites.

G.1.1.17 Further discussion on recommended additional assessment that may be required based on level of risk reported, and the nature of planned construction work, in relation to the potential contaminated sites is presented within Section 8 of the main report.

## Table G-2 Area 4 – Summary of risk to human health

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of human health / Evaluation Criteria | Summary risks to human health |
|---|---|---|---|---|---|
| CL041 - Former Quarry (1899 - 1961) | Within the proposed road alignment | Two soil samples obtained within CL041<br>Two soil samples from locations within 2m and 5 m proximity of CL041 | PW – Archaeological mitigation (SMR).<br><br>MW – Removal of existing A303/construction of new highway within cutting.<br>Calcareous grassland creation and woodland planting. | No exceedances of human health EC detected. | Risk to human health is acceptable. |
| CL050 - Pumping Station | Located 5m from the proposed road alignment | No, due to very low to low baseline risk.<br>However, three soil samples in 15m proximity north of the area were collected for general characterisation of ground conditions across the scheme in proximity of this site | MW – Embankment for new A303 countess roundabout flyover.<br>Amenity tree and shrub planting. | No exceedances of human health EC detected. | Risk to human health is acceptable. |
| CL051 - Countess Filling Station | Located 40m from the proposed road alignment | No samples obtained within CL051 boundary.<br>Closest samples are four soil samples in 48m and 65m | No works proposed within CL051 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately east: | No exceedances of human health EC detected. | Risk to human health is acceptable. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of human health / Evaluation Criteria | Summary risks to human health |
|---|---|---|---|---|---|
| | | proximity east of the CL051 | MW – Countess Compound, however this should be constructed using 'no-dig' i.e. non-intrusive.<br>Possible construction of the compound exit route (would likely be intrusive – to be confirmed). | | |
| CL102 - Motor Works | Located 50m from the proposed road alignment (eastern-most extent near Allington Track) | No ground investigation undertaken. Sites to the east of the eastern extent of the proposed road alignment were not targeted by ground investigation.<br><br>However, two soil samples 42m proximity south of the area were collected for general characterisation of ground conditions across the Scheme in proximity of CL102 | No works proposed within CL102 (as it is located outside of the Scheme boundary).<br>No works proposed within 50m of CL102. | No exceedances of human health EC detected. | Risk to human health is acceptable. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of human health / Evaluation Criteria | Summary risks to human health |
|---|---|---|---|---|---|
| Outside potential contaminated sites but within Scheme boundary | - | 65 soil samples were obtained. | Activities associated mainly with Countess Roundabout flyover.<br><br>General works in Area 4 include: approach to eastern portal, Countess Junction, which includes Countess eastern diverge, Countess Roundabout, Countess flyover, Countess reinforced embankment. River Avon Bridge, proposed utility corridor, new link track between Allington Track and Amesbury Road | TP2_CRI (0.5m bgl) (mg/kg)<br>TP4_CRI (0.6m bgl) (mg/kg)<br>Located to the southwest of CL051 (Countess Filling Station)<br><br>Concentrations for PAHs were noted to exceed the relevant EC, including Benzo(a)pyrene as a surrogate marker for the PAH mixture. | Risk to human health is acceptable.<br>The PAH exceedances were known to be attributed to a localised fuel spillage. The exceedances were generally found to be marginal.<br>The further investigation of the PAH source, immediately east of TP4_CRI (excavation of (STPES1-6) towards CL051 (Countess Filling Station) recorded no human health EC exceedances No visual or olfactory evidence of contamination was noted.<br><br>However, it should be noted that there is limited ground investigation data in the northern and eastern extents of Area 4. However, minimal works are proposed in these areas. |
| Outside potential contaminated sites and outside Scheme area | N/A | Seven soil samples obtained. | Outside of the Scheme | CP72308 (0.2m bgl)<br>CP72308A (0.2m bgl) (mg/kg)<br>Concentrations for several PAH were noted to exceed the relevant EC, including Benzo(a)pyrene as a surrogate marker for the PAH mixture. | Risk to human health is considered to be acceptable.<br>The two locations where exceedances were noted are all outside of potential contaminated land sites and outside of the Scheme area. Works in the vicinity of these locations will be associated with embankment works for the Countess Roundabout flyover.<br>Exceedances were generally found to be marginal. |

G.1.1.18 Based on the planned construction activities, only CL041 (Former Quarry), CL050 (Pumping Station), CL055 (Railway Land (historic engine sheds, buildings, tanks and sidings)), CL057 (Former SR Bulford Extension Railway (1924 - 1937)), CL058 (Cuttings potentially associated with SR Bulford Extension Railway - potentially infilled) are likely to result in significant ground disturbance. The planned construction works in these areas are as follows.

- CL041 low risk site - removal of the existing A303 and construction of a new highway within a cutting;
- CL050 low risk site - embankment works for the new flyover;
- CL055 moderate/low risk site - power cable installation possibly involving trenching techniques;
- CL057 moderate/low risk site - power cable installation possibly involving trenching techniques and tie in on the new A303 with the existing A303 and construction of an embankment; and
- CL058 moderate/low risk site - tie in on the new A303 with the existing A303 and construction of an embankment.

G.1.1.19 However, only CL050 currently has had ground investigation works associated with it.

G.1.1.20 Should the northern substation be required (currently it is not), potential contaminated land site CL081 (Electricity Sub Station), CL082 (Sewage Works), and CL056 (MA Motors and recovery - Motor Garage) are also likely to be affected by ground disturbance.

G.1.1.21 Ground investigation works have currently not been undertaken within or adjacent to the majority of the potential contaminated sites within Area 4. This is primarily due to the distance of the sites from the Scheme boundary and or the lack of proposed construction activity taking place within the east of the assessment area.

G.1.1.22 The requirement for further assessment or additional ground investigation for these remaining sites are discussed in Section 8.

## G.2 Controlled waters (surface water – River Avon)

### General

G.2.1.1 The potential surface water receptor in Area 4 is the River Avon, which flows southwards through Amesbury.

G.2.1.2 Groundwater in the Chalk aquifer flows in a generally southerly direction with flow at high groundwater levels converging on the River Avon in the east of the Scheme area (with inferred flow directions within Area 4 trending south easterly or south westerly towards the river). The groundwater discharges as baseflow to the river. The risk to the river from the potential contaminated sites is via this intermediate groundwater pathway. The input of groundwater to the river may be reduced or reversed during periods of low groundwater levels.

G.2.1.3 Springs were identified within 1km of the Scheme boundary in Area 4 at West Amesbury (including that at Gallows Hill) and at Amesbury Abbey. Those at West Amesbury are over 700m from the Scheme boundary in Area 4, based on the inferred direction of groundwater flow (no individual contaminated sites are located in this part of the Scheme). The spring at Amesbury Abbey is located 130m from the Scheme boundary and potential contaminated site CL041.

G.2.1.4 One licensed surface water abstraction was identified within 1km of the Scheme in Area 4. This is located approximately 750m to the south of the Scheme boundary in West Amesbury and is associated with the abstraction of surface water from the River Avon for wetland support.

### Comparison of surface water EC against soil leachate and groundwater results

G.2.1.5 The laboratory results from the 15 soil leachate samples and four groundwater samples collected from Area 4 during the ground investigations were screened against the surface water EC as per the GQRA methodology described in Appendix C. The samples collected are listed in Table 5-4 and the analysis undertaken on these samples is presented within Table 5-8, both in Section 5 within the main text of the report.

G.2.1.6 Of the 15 soil leachate samples, 11 were obtained outside potential contaminated sites within Area 4 but within the Scheme boundary, whilst two samples were obtained outside the potential contaminated sites and also outside the Scheme boundary. The remainder were obtained within the following areas:

- one sample was obtained within CL041
- one sample was obtained 48m east of CL051

G.2.1.7 Of the four groundwater samples, one was obtained outside potential contaminated sites within Area 4 but within the Scheme boundary, whilst two samples were obtained outside the potential contaminated sites and also outside the Scheme boundary. The remainder was obtained approximately 65m from CL051.

G.2.1.8 In addition, 24 samples collected from three wells between 2018 and 2021 during the groundwater monitoring programme were also reviewed during the assessment. The analysis undertaken on these samples is presented within Table 5-9, Section 5 within the main text of the report. These include samples taken down-inferred hydraulic gradient of site CL041.

G.2.1.9 The results of the screening of the laboratory soil leachate data are presented in Appendix H and summarised in Table G-3. These indicate that the following numbers of soil leachate samples analysed within Area 4 were detected at concentrations above their respective EC protective of a surface water receptor.

**Table G-3 – Area 4: surface water evaluation criteria exceedances for soil leachate data**

| Determinand | Units | EC protective of surface water | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Anthracene | µg/l | 0.1 | 15 | 8 | 16.4 | 1 |
| Fluoranthene | µg/l | 0.0063 | 15 | 9 | 14 | 9 |
| Benzo(a) pyrene | µg/l | 0.00017 | 15 | 5 | 0.163 | 5 |
| Benzo(g,h,i)perylene | µg/l | 0.0082 | 15 | 4 | 0.199 | 4 |
| Benzo(b)fluoranthene | µg/l | 0.017 | 15 | 7 | 0.211 | 4 |
| Benzo(k)fluoranthene | µg/l | 0.017 | 15 | 5 | 0.107 | 4 |
| Cadmium | µg/l | 0.08 | 15 | 1 | 0.146 | 1 |
| Copper | µg/l | 1 | 15 | 13 | 29.4 | 12 |
| Lead | µg/l | 1.2 | 15 | 3 | 10.7 | 2 |
| Zinc | µg/l | 10.9 | 15 | 13 | 52.1 | 1 |

G.2.1.10 The results of the screening of the laboratory groundwater data are presented in Appendix H and summarised in Table G-4. These indicate that the following numbers of groundwater samples analysed within Area 4 were detected at concentrations above their respective EC protective of a surface water receptor.

**Table G-4 – Area 4: surface water evaluation criteria exceedances for groundwater data**

| Determinand | Units | EC protective of surface water | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Anthracene | µg/l | 0.1 | 4 | 1 | 0.159 | 1 |
| Fluoranthene | µg/l | 0.0063 | 4 | 1 | 0.657 | 1 |
| Benzo(a) pyrene | µg/l | 0.00017 | 4 | 1 | 0.66 | 1 |
| Benzo(g,h,i)perylene | µg/l | 0.0082 | 4 | 1 | 0.488 | 1 |
| Benzo(b)fluoranthene | µg/l | 0.017 | 4 | 1 | 0.897 | 1 |
| Benzo(k)fluoranthene | µg/l | 0.017 | 4 | 1 | 0.333 | 1 |
| Copper | µg/l | 1 | 1 | 1 | 10 | 1 |
| Chromium (Trivalent) | µg/l | 4.7 | 1 | 1 | 10 | 1 |

### Summary of risks to surface water (River Avon)

G.2.1.11 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 4, are presented in Table G-5.

G.2.1.12 Where EC have been exceeded, the level of risk to surface water receptors has been assessed and is summarised in the table.

G.2.1.13 PAHs were detected in soil leachate at locations immediately north (STEPS1, STPES2, STPES5) and south of the Countess Roundabout (CP72308) at concentrations that could pose a risk to the River Avon. Groundwater sampled from CP72308A also contained the same PAHs at elevated levels in excess of EC. This well is adjacent to CP72308 and potentially down-gradient of STPES1, STPES2 and STPES5. CP72308/CP72308A are approximately 25m from the river in the direction of groundwater flow. Given the level of exceedance, occurrence in groundwater and proximity of the river, leaching of PAHs from soils in this area could pose an unacceptable risk to the River Avon. These PAHs are, interpreted to result from localised occurrences in soils at these locations, with evidence of bitumen/tarmacadam and hydrocarbon odours noted in shallow soils (<1m depth) at CP72308, CP72308A, STPES1, STPES2 and TP4_CRI.

G.2.1.14 The locations of these are shown on Figure G-1 (Section G1).

G.2.1.15 The risk to the river from leaching of PAHs from shallow soils north and south of Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated, taking account of the potential migratory distance to the river, to assess samples collected during further delineation or re-use testing.

G.2.1.16 PAHs were not detected at elevated levels in other samples from Area 4, with the exception of fluoranthene and an isolated occurrence of benzo(a)pyrene at WS72401. Fluoranthene is considered to reflect background conditions across the area given this more widespread occurrence. Neither compound was detected in the groundwater samples assessed, other than at CP72308A. This suggests they are not leaching from soils widely and the risk to the river from PAHs leaching from the soils tested outside of those around Countess Roundabout is low.

G.2.1.17 The metals detected in the samples tested at levels above EC across the majority of Area 4 are considered to reflect background conditions across the Scheme and do not indicate an unacceptable risk to the River Avon.

G.2.1.18 The exception are soils at site CL041. The risk posed by the soils at CL041 to the river is uncertain. Whilst the soil leachate data from this site, and distance to the river, indicate a low risk to surface water from the soils tested in CL041, the groundwater sampled down-gradient sometimes contained metals above the EC, primarily at WS02. However, there was variability in detected concentrations, both between neighbouring monitoring wells WS02 and AS and within well WS02. Also, given the occurrence of these metals in groundwater elsewhere in the Scheme area, they may not specifically come from a source at CL041.

G.2.1.19 Given this uncertainty and the intrusive MW proposed across CL041, measures should be implemented to manage potentially contaminated soil

if encountered during the works at this site and for testing of soil before re-use. Site-specific assessment criteria should be calculated that take account of the potential migratory distance to the river.

## Table G-5 - Area 4: summary of risk to surface water (River Avon)

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| CL041 - Former Quarry (1899 - 1961) | Within the proposed road alignment | One soil leachate sample was obtained within CL041.<br><br>Two groundwater monitoring programme locations were down-inferred hydraulic gradient of CL041. | PW – Archaeological mitigation (SMR).<br><br>MW – Removal of existing A303/construction of new highway within cutting. Calcareous grassland creation and woodland planting. | Soil leachate:<br><br>STP72202A, exceeded the EC for copper by less than one order of magnitude.<br><br>Groundwater monitoring programme:<br><br>Individual samples from AS exceeded lead and zinc EC by less than an order of magnitude.<br>WS02 exceeded copper, iron, and zinc EC by up to two orders of magnitude in two or more sample collected from this location. | The copper detected in soil leachate is less than the maximum of the BGS background data for the Chalk groundwater and is only marginally above the EC.<br>The copper, iron, lead, and zinc detected in groundwater down-hydraulic gradient of this site are above the range of the BGS background data in some samples. However, variability in metal concentrations in neighbouring wells AS and WS02, and variable results over time in WS02, suggest the elevated levels are localised. Also, given the occurrence of these metals in groundwater elsewhere in the Scheme area, they may not specifically come from a source at CL041.<br>This site is located approximately 200m from the river in direction of inferred groundwater flow, and migration along this intermediate pathway may act to attenuate or delay migration of these metals to the river.<br>Whilst the soil leachate data and potential mitigation due to the distance from the river indicate a low risk to surface water from the soils tested in CL041, the groundwater sampled down-gradient sometimes contained metals above the EC, primarily at WS02. The risk posed by soils at CL041 is uncertain.<br>Given this uncertainty and the intrusive MW proposed across CL041, measures should be implemented to manage potentially contaminated soil if encountered during the |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| | | | | | works and for testing of soil before re-use. Site-specific assessment criteria should be calculated that take account of the potential migratory distance to the river. |
| CL051 - Countess Filling Station | Located 40m from the proposed road alignment | One soil leachate sample was obtained 48m east of CL051.<br>One groundwater sample was obtained 65m east of CL051. | No works proposed within CL051 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately east:<br><br>MW – Countess Compound, however this should be constructed using 'no-dig' i.e. non-intrusive. Possible construction of the compound exit route (would likely be intrusive – to be confirmed). | Soil leachate:<br>One location tested, SA506 exceeded EC for copper by less than one order of magnitude.<br><br>Groundwater – GI:<br>No exceedances. | The concentration of copper detected in soil leachate is not considered to indicate an unacceptable risk to surface water at this location as it was only marginally above the EC, was within the range of the BGS background data.<br>Additionally, this site is located approximately 130m from river in direction of inferred groundwater flow, and migration along this intermediate pathway may attenuate or delay input to the river. |
| Outside potential contaminated sites | - | 11 soil leachate samples were obtained outside potential contaminated sites within Area 4 but within the Scheme boundaries. | Activities associated mainly with Countess Roundabout flyover.<br><br>General works in Area 4 include: approach to eastern portal, Countess Junction, which | Soil leachate:<br><br>CP72308, STPES1, STPES2 and STPES5 exceeded the EC for benzo(a)pyrene, benzo(g,h,i)perylene, benzo(b)fluoranthene, benzo(k)fluoranthene and | PAHs were detected in soil leachate at locations immediately north (STEPS1, STPES2, STPES5) and south of the Countess Roundabout (CP72308) at concentrations that could pose a risk to the River Avon. Groundwater sampled from CP72308A also contained the same PAHs at elevated levels in excess of EC. This well is adjacent to CP72308 and down-gradient of STPES1, STPES2 and STPES5 (based on the inferred |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| | | Two soil leachate samples were obtained outside potential contaminated sites within Area 4 and outside the Scheme boundaries.<br><br>Three groundwater samples were obtained within Area 4 but within the Scheme boundaries.<br><br>One of the GI groundwater monitoring locations was subsequently re-sampled for the groundwater monitoring programme. | includes Countess eastern diverge, Countess Roundabout, Countess flyover, Countess reinforced embankment. River Avon Bridge, proposed utility corridor, new link track between Allington Track and Amesbury Road | fluoranthene by up to four orders of magnitude.<br>CP72308 also exceeded the EC for anthracene by up to two orders of magnitude.<br>WS72401 exceeded the EC for benzo(a)pyrene and fluoranthene by an order of magnitude.<br>Four other locations exceeded the EC for fluoranthene by a maximum of two orders of magnitude (BH72401, BH72503, SA505, STP72601).<br>Ten locations exceeded the EC for copper by up to an order of magnitude.<br>Two locations, CP72308 and STPES1 exceeded the EC for lead by one order of magnitude.<br>STPES1 also exceeded the EC for cadmium and zinc by up to an order of magnitude.<br><br>Groundwater– GI:<br><br>One location, R507A, exceeded the EC for copper | groundwater flow direction). CP72308/CP72308A are approximately 25m from the river in the direction of groundwater flow. Given the level of exceedance, occurrence in groundwater and proximity of the river, leaching of PAHs from soils in this area could pose an unacceptable risk to the River Avon.<br>These PAHs are, however, interpreted to result from localised occurrence in soils at these locations, with evidence of bitumen/tarmacadam and hydrocarbon odours noted in shallow soils (<1m depth) at CP72308, CP72308A, STPES1, STPES2 and TP4.<br>The PAHs were not detected at elevated levels in other samples from Area 4, with the exception of fluoranthene and an isolated occurrence of benzo(a)pyrene at WS72401. Fluoranthene was detected at concentrations above EC in soil leachates from elsewhere in this Area. It is considered to reflect background conditions across the area given this more widespread occurrence. Neither compound was detected in the groundwater samples assessed, other than at CP72308A. This suggests they are not leaching from soils widely and the risk to the river from PAHs leaching from the soils tested outside of those around Countess Roundabout is low.<br>The metals detected at levels above EC in the samples assessed are considered to reflect background conditions across the Scheme and |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of surface water Evaluation Criteria | Summary risks to surface water |
|---|---|---|---|---|---|
| | | | | and chromium by up to one order of magnitude.<br>One location, CP72308A, exceeds EC for multiple PAHs (anthracene, fluoranthene, benzo(a) pyrene, benzo(g,h,i)perylene, benzo(b)fluoranthene, and benzo(k)fluoranthene) by up to three orders of magnitude.<br><br>Groundwater monitoring programme:<br><br>Six of the 13 samples collected from R507A exceeded the EC for iron by less than an order of magnitude.<br>Up to six of these samples also contained copper, lead, zinc, and trivalent chromium at levels up to an order of magnitude above the EC. | the do not indicate an unacceptable risk to the River Avon.<br>The copper and zinc concentrations recorded in soil leachate and groundwater samples were generally within the range of the BGS background data for the Chalk groundwater. Those for cadmium in soil leachate plus iron and lead in groundwater were also within the background range.<br>Whilst lead was detected above the EC and background range in soil leachates and trivalent chromium was likewise detected above these limits in groundwater, these were isolated occurrences and these determinands were only recorded at lower levels, or were not detected, in the majority of samples assessed.<br>The risk to the river from leaching of PAHs from soils north and south of Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated, taking account of the potential migratory distance to the river, to assess samples collected during further delineation or re-use testing. |

## G.3 Controlled waters (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)

### General

G.3.1.1 The identified groundwater receptors in Area 4 include the following groundwater bodies:

- Chalk Principal aquifer, present across the area and considered the critical groundwater receptor.
- Superficial Secondary A aquifer - Alluvium, River Terrace Deposits, and localised Head Deposits (where these consist of gravel).
- Secondary (undifferentiated) aquifer - Head Deposits (comprising clay, silt, sand, and gravel).

G.3.1.2 No licensed groundwater abstractions were identified within 1km of the Scheme in Area 4.

G.3.1.3 Three SPZ are located within 1km of the Scheme in Area 4. However, these are located up or across the inferred groundwater flow direction from the Scheme boundary so are not considered to be at risk from potential contaminated sites in Area 4.

### Comparison of groundwater EC against soil leachate and groundwater results

G.3.1.4 The laboratory results from the 15 soil leachate samples and four groundwater samples collected from Area 4 during the ground investigations were screened against the groundwater EC as per the GQRA methodology described in Appendix C. The samples collected are listed in Table 5-4 and the analysis undertaken on these samples is presented within Table 5-8, both in Section 5 within the main text of the report. These were supplemented with 24 samples collected during the groundwater monitoring programme (described in Table 5-9).

G.3.1.5 Further details of the samples included in the assessment, relative to the potential contaminated sites and the Scheme boundary are described in G2 above.

G.3.1.6 The results of the screening of the laboratory soil leachate data are presented in Appendix H and summarised in Table G-6. These indicate that the following numbers of soil leachate samples analysed within Area 4 were detected at concentrations above their respective EC protective of a groundwater receptor.

**Table G-6 – Area 4: Groundwater evaluation criteria exceedances for soil leachate data**

| Determinand | Units | EC protective of groundwater | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| >EC10-EC12 Aromatics | µg/l | 90 | 14 | 1 | 126 | 1 |
| >EC12-EC16 Aromatics | µg/l | 90 | 15 | 1 | 759 | 1 |
| >EC16-EC21 Aromatics | µg/l | 90 | 15 | 1 | 595 | 1 |
| >EC16-EC35 Aromatics | µg/l | 90 | 12 | 1 | 634 | 1 |
| Acenaphthylene | µg/l | 18 | 15 | 3 | 46.2 | 1 |
| Acenaphthene | µg/l | 18 | 15 | 8 | 51 | 1 |
| Fluorene | µg/l | 12 | 15 | 10 | 48.1 | 1 |
| Phenanthrene | µg/l | 4 | 15 | 9 | 86.3 | 1 |
| Fluoranthene | µg/l | 4 | 15 | 9 | 14 | 1 |
| Pyrene | µg/l | 9 | 15 | 9 | 9 | 1 |
| Benzo(a) pyrene | µg/l | 0.01 | 15 | 5 | 0.163 | 4 |
| PAHs (sum of 4) | µg/l | 0.1 | 15 | 7 | 0.4565 | 4 |
| Antimony | µg/l | 5 | 14 | 4 | 8.97 | 1 |
| Iron | µg/l | 200 | 12 | 3 | 344 | 2 |
| Lead | µg/l | 10 | 15 | 3 | 10.7 | 1 |
| Manganese | µg/l | 50 | 15 | 3 | 75.8 | 1 |
| Phosphorus | µg/l | 0.4 | 15 | 14 | 622 | 14 |

G.3.1.7 The results of the screening of the laboratory groundwater data are presented in Appendix H and summarised in Table G-7. These indicate that the following numbers of groundwater samples analysed within Area 4 were detected at concentrations above their respective EC protective of a groundwater receptor.

**Table G-7 – Area 4: groundwater evaluation criteria exceedances for groundwater data**

| Determinand | Units | EC protective of groundwater | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Benzo(a) pyrene | µg/l | 0.01 | 4 | 1 | 0.66 | 1 |
| Dibenz(a,h)anthracene | µg/l | 0.07 | 4 | 1 | 0.0897 | 1 |
| PAHs (sum of 4) | µg/l | 0.1 | 4 | 1 | 2.12 | 1 |
| Manganese (Filtered) | µg/l | 50 | 3 | 2 | 102 | 1 |

| Determinand | Units | EC protective of groundwater | Number of results | Number of detects | Maximum detect | Number of EC exceedances (detects only) |
|---|---|---|---|---|---|---|
| Phosphorus (Filtered) | µg/l | 0.4 | 3 | 2 | 31.2 | 2 |
| Nitrate (as NO3-) (Filtered) | mg/l | 50 | 3 | 2 | 60.7 | 1 |

### Summary of risks to groundwater (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)

G.3.1.8 The results of the screening and assessment of soil leachate and groundwater samples collected within specific potential contaminated sites, and elsewhere across the Scheme in Area 4, are presented in the following table G-8).

G.3.1.9 Where EC have been exceeded, the level of risk to groundwater receptors has been assessed and is summarised in the table.

G.3.1.10 PAHs were detected in soil leachate at locations immediately north of the Countess Roundabout (STEPS1, STPES2 and STPES5) at concentrations that could pose a risk to groundwater. They were also detected above the EC, along with aromatic petroleum hydrocarbons, at (CP72308) south of the roundabout. Groundwater sampled from CP72308A, adjacent to CP72308 and potentially down-hydraulic gradient of STEPS1, STPES2 and STPES5, also contained the some of these PAHs at elevated levels in excess of EC. Given the level of exceedance, and presence in groundwater, leaching of PAHs from soils in this area could pose an unacceptable risk to groundwater. These PAHs and hydrocarbons are, however, interpreted to result from localised occurrence in soils at these locations, with evidence of bitumen/tarmacadam and hydrocarbon odours noted in shallow soils (<1m depth) at CP72308, CP72308A, STPES1, STPES2 and TP4_CRI.

G.3.1.11 The risk to groundwater from leaching of PAHs and aromatic hydrocarbons from soils around Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated to assess samples collected during further delineation or re-use testing.

G.3.1.12 The metals detected at levels above EC in Area 4 are considered to reflect background conditions across the Scheme and the do not indicate an unacceptable risk to groundwater from the locations sampled.

**Table G-8 - Area 4: summary of risk to groundwater (Chalk Principal aquifer, superficial Secondary A aquifer, Secondary (undifferentiated) aquifer)**

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| CL041 - Former Quarry (1899 - 1961) | Within the proposed road alignment | One soil leachate sample was obtained within CL041.<br><br>Two groundwater monitoring programme locations were down-inferred hydraulic gradient of CL041. | PW – Archaeological mitigation (SMR).<br><br>MW – Removal of existing A303/construction of new highway within cutting.<br>Calcareous grassland creation and woodland planting. | Soil leachate:<br><br>STP72202A exceeded the EC for phosphorus by two orders of magnitude.<br><br>Groundwater monitoring programme:<br><br>Phosphorus exceeded the EC in all samples tested from AS1 and WS02 by up to five orders of magnitude.<br>Iron exceeded the EC in five of the samples collected from these two wells by up to three orders of magnitude. | The phosphorus and iron detected in soil leachate and groundwater at concentrations above the EC are considered to reflect background conditions across the Scheme and do not indicate an unacceptable risk to groundwater from this site.<br>The phosphorus detected in soil leachate is less than the mean of the BGS background data for the Chalk groundwater.<br>The phosphorus and iron detected in groundwater down-hydraulic gradient of this site are mostly within the range of the BGS background data. Additionally, the filtered (dissolved) phosphorus concentrations recorded in these samples were less than the mean of the BGS background data. |
| CL051 - Countess Filling Station | Located 40m from the proposed road alignment | One soil leachate sample was obtained 48m east of CL051.<br>One groundwater sample was obtained 65m east of CL051. | No works proposed within CL051 (as it is located outside/bordering the Scheme boundary).<br><br>Closest works are immediately east:<br><br>MW – Countess | Soil leachate:<br><br>The location tested close to this site, SA506, exceeded the EC for phosphorus by three orders of magnitude. | The phosphorus detected in soil leachate and groundwater at concentrations above the EC was within the range of the BGS background data and are considered to reflect background conditions across the Scheme. Based on this, they do not indicate an unacceptable risk to groundwater. |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | Compound, however this should be constructed using 'no-dig' i.e. non-intrusive. Possible construction of the compound exit route (would likely be intrusive – to be confirmed). | Groundwater – GI:<br>The only location tested close to this site, CPES1, exceeded the EC for phosphorus by two orders of magnitude. | |
| Outside potential contaminated sites | - | 11 soil leachate samples were obtained outside potential contaminated sites within Area 4 but within the Scheme boundaries.<br><br>Two soil leachate samples were obtained outside potential contaminated sites within Area 4 and outside the Scheme boundaries.<br><br>Three groundwater samples were obtained within Area 4 but within the Scheme boundaries. | Activities associated mainly with Countess Roundabout flyover.<br><br>General works in Area 4 include: approach to eastern portal, Countess Junction, which includes Countess eastern diverge, Countess Roundabout, Countess flyover, Countess reinforced embankment. River Avon Bridge, proposed utility corridor, new link track between Allington Track and Amesbury Road | Soil leachate:<br><br>All locations tested except R507A exceeded the EC for phosphorous by up to three orders of magnitude.<br>One location tested, CP72308, exceeded the EC for eleven organic compounds ( >EC10-EC12 aromatics, >EC12-EC16 aromatics, >EC16-EC21 aromatics, acenaphthylene, acenaphthene, fluorene, phenanthrene, fluoranthene, pyrene, benzo(a)pyrene, PAHs (sum of 4)) by up to an order of magnitude.<br>CP72308 also exceeded the EC for iron, lead, and manganese by less than one order of magnitude.<br>Additionally, three other locations STPES1, STPES2 | PAHs were detected in soil leachate at locations immediately north of the Countess Roundabout (STEPS1, STPES2 and STPES5) at concentrations that could pose a risk to groundwater. They were also detected above the EC, along with aromatic petroleum hydrocarbons, at (CP72308) south of the roundabout. Groundwater sampled from CP72308A also contained the same PAHs at elevated levels in excess of EC. This well is adjacent to CP72308 and down-gradient of STEPS1, STPES2 and STPES5 (based on the inferred groundwater flow direction). Given the level of exceedance, and presence in groundwater, leaching of PAHs from soils in this area could pose an unacceptable risk to groundwater.<br>These PAHs and hydrocarbons are, however, interpreted to result from localised occurrence in soils at these locations, with evidence of bitumen/tarmacadam and hydrocarbon odours noted in shallow soils (<1m depth) |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | One of the GI groundwater monitoring locations was subsequently re-sampled for the groundwater monitoring programme. | | and STPES5 exceeded the EC for benzo(a)pyrene and PAHs (sum of 4) by less than one order of magnitude.<br>STPES1 exceeded EC for antimony and iron by less than one order of magnitude.<br><br>Groundwater – GI:<br><br>One location tested, CP72308A, exceeded the EC for three organic compounds: benzo(a)pyrene, dibenz(a,h)anthracene, and PAHs (sum of 4), and also the EC for manganese by up to an order of magnitude.<br>CP72310 exceeded the EC for phosphorus by two orders of magnitude, and the EC for nitrate by less than one order of magnitude.<br><br>Groundwater monitoring programme:<br><br>Phosphorus exceeded the EC in all samples tested from R507A by up to three orders of magnitude. | at CP72308, CP72308A, STPES1, STPES2 and TP4_CRI.<br>The metals detected at levels above EC are considered to reflect background conditions across the Scheme and the do not indicate an unacceptable risk to groundwater from the locations sampled. The phosphorus, iron and manganese detected in soil leachate and groundwater at concentrations above the EC were generally within the range of the BGS background data. The filtered (dissolved) phosphorus concentrations recorded in the groundwater monitoring programme samples were less than the mean of the BGS background data.<br>Lead was detected above the EC and background range in one soil leachate sample. Antinomy was detected above EC in one other soil leachate sample. Nitrate was detected in one groundwater sample at levels above the EC. These are considered to be isolated occurrences and these determinands were recorded at lower levels, or were not detected, in the majority of soil leachate and groundwater samples assessed.<br>The risk to groundwater from leaching of PAHs and aromatic hydrocarbons from soils around Countess Roundabout could be managed through limited further delineation and removal of these soils. Measures should also be implemented to |

| Name and reference | Distance from the proposed road alignment *** | Ground investigation data | Planned construction activity | Summary of exceedances of groundwater Evaluation Criteria | Summary risks to groundwater |
|---|---|---|---|---|---|
| | | | | Iron exceeded the EC all except one of the samples collected from this well by up to an order of magnitude. | manage potentially contaminated soil if encountered during the works and for testing of soil before re-use. Site-specific assessment criteria should be calculated to assess samples collected during further delineation or re-use testing. |

# Appendix H GQRA Screening Tables, Human Health and Controlled Waters

| | | | | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_1 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | DTP70701 | DTP70702 | DTP70703 | | R70105 | R70106 | | R70107 | R70108 | | R70112 | | R70115 | R70301 | R70901 | SA501 | | STP501 | |
| | | | | | Depth Range (m) | 0.5 | 0.3 | 0.5 | 1.5 | 0-0.1 | 0.3 | 1 | 0.5 | 0.3-0.4 | 1-1.1 | 0.25 | 1 | 0.3-0.4 | 0.6 | 0.2 | 0.1-0.3 | 1-1 | 0.5-0.5 | 1-1 |
| | | | | | Date | 23/09/2020 | 15/09/2020 | 16/09/2020 | 16/09/2020 | 23/09/2020 | 23/09/2020 | 23/09/2020 | 25/09/2020 | 28/09/2020 | 28/09/2020 | 05/10/2020 | 05/10/2020 | 08/10/2020 | 11/09/2020 | 24/06/2019 | 09/03/2017 | 09/03/2017 | 27/02/2017 | 27/02/2017 |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Units | Method Detection Limit | | Lab Report Number | 574116 | 571081 | 569678 | 569678 | 571021 | 571021 | 571021 | 580778 | 575652 | 575652 | 580694 | 580694 | 572420 | 575650 | 755463-3 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | | | |
| | GRO >C5-C10 | mg/kg | 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 | - | - | - | - | - |
| | >C5-C6 Aliphatics | mg/kg | 0.01 | 95,000[#1] | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | >C6-C8 Aliphatics | mg/kg | 0.01 | 150,000[#1] | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | >C8-C10 Aliphatics | mg/kg | 0.01 | 14,000[#1] | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | >C10-C12 Aliphatics | mg/kg | 1 | 21,000[#1] | | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1.5 | <0.1 | <0.1 | <0.1 | <0.1 |
| | >C12-C16 Aliphatics | mg/kg | 1 | 25,000[#1] | | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| | >C16-C21 Aliphatics | mg/kg | 1 | | | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1.5 | <0.1 | <0.1 | <0.1 | <0.1 |
| | >C16-C35 Aliphatics | mg/kg | | 450,000[#1] | | 4.5 | - | <2 | <2 | 16.4 | 3.11 | <2 | 5.44 | 3.26 | <2 | 10.77 | <2 | <2 | 3.02 | <4.9 | <0.2 | <0.2 | <0.2 | <0.2 |
| | >C21-C35 Aliphatics | mg/kg | 1 | 7,800[#4] | | 3.5 | - | <1 | <1 | 15.4 | 2.11 | <1 | 4.44 | 2.26 | <1 | 9.77 | <1 | <1 | 2.02 | <3.4 | <0.1 | <0.1 | <0.1 | <0.1 |
| | >C35-C44 Aliphatics | mg/kg | 1 | 450,000[#1] | | <1 | - | <1 | <1 | 1.3 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | - | - | - | - |
| | >C5-C35 Aliphatics | mg/kg | 10 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | - | - | - | - |
| | >C6-C7 Aromatics | mg/kg | 0.01 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| | >C7-C8 Aromatics | mg/kg | 0.01 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| | >C8 -C10 Aromatics | mg/kg | 0.01 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| | >EC5-EC7 Aromatics | mg/kg | 0.01 | 76,000[#1] | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 |
| | >EC7-EC8 Aromatics | mg/kg | 0.01 | 87,000[#1] | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 |
| | >EC8-EC10 Aromatics | mg/kg | 0.01 | 7,200[#1] | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - |
| | >EC8-EC9 Aromatics | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 |
| | >EC9-EC10 Aromatics | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 |
| | >EC10-EC12 Aromatics | mg/kg | 0.9 | 9,200[#1] | | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.9 | <0.1 | <0.1 | <0.1 | <0.1 |
| | >EC12-EC16 Aromatics | mg/kg | 0.5 | 10,000[#1] | | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 |
| | >EC16-EC21 Aromatics | mg/kg | 0.6 | 7,600[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.6 | <0.1 | <0.1 | <0.1 | <0.1 |
| | >EC21-EC35 Aromatics | mg/kg | 1.4 | 7,800[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <1.4 | <0.1 | <0.1 | <0.1 | <0.1 |
| | >EC35-EC44 Aromatics | mg/kg | 1 | 7,800[#1] | | <1 | - | <1 | <1 | <1 | <1 | 1.09 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | - | - | - | - |
| | >C5-C35 Aromatics | mg/kg | 10 | 14,000[#5] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | - | - | - | - |
| | >C5-C35 Aliphatics & Aromatics | mg/kg | 10 | 7,200[#6] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | - | - | - | - |
| | Mineral Oil (C10-C40) | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | - | <10 | <10 |
| | mineral oil | mg/kg | 5 | | | - | - | - | - | - | - | - | - | - | - | - | <5 | - | <5 | - | - | - | - | - |
| | Total Aliphatics | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Total Aromatics | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Aromatics > EC16-EC21 | mg/kg | 1 | | | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | - | - | - | - |
| | Aromatics > EC21-EC35 | mg/kg | 1 | 7,600[#1] | | <1 | - | <1 | <1 | 7.16 | 1.23 | <1 | 3.6 | <1 | <1 | 3.41 | <1 | <1 | <1 | - | - | - | - | - |
| | Aromatics > EC40-EC44 | mg/kg | 1 | | | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | - | - | - | - |
| | TPH (Ali & Aro) | mg/kg | 10 | | | <10 | - | <10 | <10 | 26.2 | <10 | <10 | <10 | <10 | <10 | 14.8 | <10 | <10 | <10 | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Total Aliphatics >C10-C44 | mg/kg | 5 | 21,000[#7] | | <5 | - | <5 | <5 | 17.5 | <5 | <5 | <5 | <5 | <5 | 10.2 | <5 | <5 | <5 | - | - | - | - | - |
| | Total Aromatics > EC10-EC44 | mg/kg | 5 | 7,600[#8] | | <5 | - | <5 | <5 | 8.71 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | - |
| VOC | | | | | | | | | | | | | | | | | | | | | | | | |
| | Dichlorodifluoromethane | mg/kg | 0.006 | | | - | - | - | - | <0.006 | - | - | - | - | - | <0.006 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | MTBE | mg/kg | 0.01 | | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Chloromethane | mg/kg | 0.007 | | | - | - | - | - | <0.007 | - | - | - | - | - | <0.007 | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 |
| | Vinyl chloride | mg/kg | 0.006 | 18[#3] | | - | - | - | - | <0.006 | - | - | - | - | - | <0.006 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Bromomethane | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Chloroethane | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Trichlorofluoromethane | mg/kg | 0.006 | | | - | - | - | - | <0.006 | - | - | - | - | - | <0.006 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,1-dichloroethene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Dichloromethane | mg/kg | 0.01 | | | - | - | - | - | 0.0127 | - | - | - | - | - | 0.0497 | - | - | - | - | <0.005 | <0.005 | <0.005 | <0.005 |
| | trans-1,2-dichloroethene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,1-dichloroethane | mg/kg | 0.008 | | | - | - | - | - | <0.008 | - | - | - | - | - | <0.008 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | cis-1,2-dichloroethene | mg/kg | 0.006 | | | - | - | - | - | <0.006 | - | - | - | - | - | <0.006 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 2,2-dichloropropane | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Bromochloromethane | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.005 | <0.005 | <0.005 | <0.005 |
| | Chloroform | mg/kg | 0.008 | 2,600[#1] | | - | - | - | - | <0.008 | - | - | - | - | - | <0.008 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,1,1-trichloroethane | mg/kg | 0.007 | 57,000[#1] | | - | - | - | - | <0.007 | - | - | - | - | - | <0.007 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,1-dichloropropene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Carbon tetrachloride | mg/kg | 0.01 | 190[#1] | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,2-dichloroethane | mg/kg | 0.005 | 21[#1] | | - | - | - | - | <0.005 | - | - | - | - | - | <0.005 | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 |
| | Benzene | mg/kg | 0.009 | 230[#2] | | <0.009 | - | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.18 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Trichloroethene | mg/kg | 0.009 | 41[#3] | | - | - | - | - | <0.009 | - | - | - | - | - | <0.009 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,2-dichloropropane | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Dibromomethane | mg/kg | 0.009 | | | - | - | - | - | <0.009 | - | - | - | - | - | <0.009 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Bromodichloromethane | mg/kg | 0.007 | | | - | - | - | - | <0.007 | - | - | - | - | - | <0.007 | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 |
| | cis-1,3-dichloropropene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Toluene | mg/kg | 0.007 | 87,000[#1] | | <0.007 | - | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.14 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | trans-1,3-dichloropropene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,1,2-trichloroethane | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Tetrachloroethene | mg/kg | 0.005 | 1,400[#3] | | - | - | - | - | <0.005 | - | - | - | - | - | <0.005 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,3-dichloropropane | mg/kg | 0.007 | | | - | - | - | - | <0.007 | - | - | - | - | - | <0.007 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Sum of PCE and TCE | mg/kg | | | | - | - | - | - | <0.014 | - | - | - | - | - | <0.014 | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 |
| | Chlorodibromomethane | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.003 | <0.003 | <0.003 | <0.003 |
| | 1,2-dibromoethane | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Chlorobenzene | mg/kg | 0.005 | 1,300[#1] | | - | - | - | - | <0.005 | - | - | - | - | - | <0.005 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,1,1,2-tetrachloroethane | mg/kg | 0.01 | 1,500[#1] | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Ethylbenzene | mg/kg | 0.004 | 17,000[#1] | | <0.004 | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.08 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Xylene (m & p) | mg/kg | 0.01 | | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 |
| | Xylene Total | mg/kg | 0.01 | 17,000[#1] | | <0.02 | - | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.4 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.01 | <0.02 | <0.02 | <0.02 | <0.02 |

| | | Units | Method Detection Limit | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_1 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | DTP70701 | DTP70702 | DTP70703 | | R70105 | R70106 | | R70107 | R70108 | | R70112 | | R70115 | R70301 | R70901 | SA501 | | STP501 | |
| | | | | | Depth Range (m) | 0.5 | 0.3 | 0.5 | 1.5 | 0-0.1 | 0.3 | 1 | 0.5 | 0.3-0.4 | 1-1.1 | 0.25 | 1 | 0.3-0.4 | 0.6 | 0.2 | 0.1-0.3 | 1-1 | 0.5-0.5 | 1-1 |
| | | | | | Date | 23/09/2020 | 15/09/2020 | 16/09/2020 | 16/09/2020 | 23/09/2020 | 23/09/2020 | 23/09/2020 | 25/09/2020 | 28/09/2020 | 28/09/2020 | 05/10/2020 | 05/10/2020 | 08/10/2020 | 11/09/2020 | 24/06/2019 | 09/03/2017 | 09/03/2017 | 27/02/2017 | 27/02/2017 |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | | | Lab Report Number | 574116 | 571081 | 569678 | 569678 | 571021 | 571021 | 571021 | 580778 | 575652 | 575652 | 580694 | 580694 | 572420 | 575650 | 755463-3 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| | Xylene (o) | mg/kg | 0.01 | 17.000[#1] | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 |
| | Total BTEX | mg/kg | 0.04 | | | <0.04 | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.8 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - | <0.01 | - | <0.01 | <0.01 |
| | Styrene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Bromoform | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Isopropylbenzene | mg/kg | 0.005 | | | - | - | - | - | <0.005 | - | - | - | - | - | <0.005 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,1,2,2-tetrachloroethane | mg/kg | 0.01 | 1.800[#1] | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Bromobenzene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,2,3-trichloropropane | mg/kg | 0.016 | | | - | - | - | - | <0.016 | - | - | - | - | - | <0.016 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | n-propylbenzene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 2-chlorotoluene | mg/kg | 0.009 | | | - | - | - | - | <0.009 | - | - | - | - | - | <0.009 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,3,5-trimethylbenzene | mg/kg | 0.008 | | | - | - | - | - | <0.008 | - | - | - | - | - | <0.008 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 4-chlorotoluene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | tert-butylbenzene | mg/kg | 0.014 | | | - | - | - | - | <0.014 | - | - | - | - | - | <0.014 | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 |
| | 1,2,4-trimethylbenzene | mg/kg | 0.009 | | | - | - | - | - | <0.009 | - | - | - | - | - | <0.009 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | sec-butylbenzene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | p-isopropyltoluene | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,3-dichlorobenzene | mg/kg | 0.008 | 390[#1] | | - | - | - | - | <0.008 | - | - | - | - | - | <0.008 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,4-dichlorobenzene | mg/kg | 0.005 | 36.000[#1] | | - | - | - | - | <0.005 | - | - | - | - | - | <0.005 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | n-butylbenzene | mg/kg | 0.011 | | | - | - | - | - | <0.011 | - | - | - | - | - | <0.011 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,2-dichlorobenzene | mg/kg | 0.01 | 24.000[#1] | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,2-dibromo-3-chloropropane | mg/kg | 0.014 | | | - | - | - | - | <0.014 | - | - | - | - | - | <0.014 | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 |
| | 1,2,4-trichlorobenzene | mg/kg | 0.02 | 1.700[#1] | | - | - | - | - | <0.02 | - | - | - | - | - | <0.02 | - | - | - | - | <0.003 | <0.003 | <0.003 | <0.003 |
| | Hexachlorobutadiene | mg/kg | 0.02 | 48[#1] | | - | - | - | - | <0.02 | - | - | - | - | - | <0.02 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | 1,2,3-trichlorobenzene | mg/kg | 0.02 | 770[#1] | | - | - | - | - | <0.02 | - | - | - | - | - | <0.02 | - | - | - | - | <0.003 | <0.003 | <0.003 | <0.003 |
| | 1,2-Dichloroethene | mg/kg | | | | - | - | - | - | <0.016 | - | - | - | - | - | <0.016 | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 |
| | Trihalomethanes | mg/kg | | | | - | - | - | - | <0.035 | - | - | - | - | - | <0.035 | - | - | - | - | <0.015 | <0.015 | <0.015 | <0.015 |
| | VOC TICs | mg/kg | 0.05 | | | - | - | - | - | <0.05 | - | - | - | - | - | <0.05 | - | - | - | - | - | - | - | - |
| | Carbon disulfide | mg/kg | 0.007 | 1.300[#1] | | - | - | - | - | <0.007 | - | - | - | - | - | <0.007 | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| | Hexachlorobenzene | mg/kg | 0.1 | 30[#1] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Tert Amyl Methyl Ether | mg/kg | 0.01 | | | - | - | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - | - | - | - | - |
| | Trichlorobenzene (total) | mg/kg | | | | - | - | - | - | <0.04 | - | - | - | - | - | <0.04 | - | - | - | - | <0.006 | <0.006 | <0.006 | <0.006 |
| PAH | | | | | | | | | | | | | | | | | | | | | | | | |
| | Naphthalene | mg/kg | 0.009 | 1.200[#1] | | <0.009 | - | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| | Acenaphthylene | mg/kg | 0.012 | 29.000[#1] | | <0.012 | - | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Acenaphthene | mg/kg | 0.008 | 29.000[#1] | | <0.008 | - | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Fluorene | mg/kg | 0.01 | 20.000[#1] | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Phenanthrene | mg/kg | 0.015 | 6.200[#1] | | <0.015 | - | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| | Anthracene | mg/kg | 0.016 | 150.000[#1] | | <0.016 | - | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.03 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Fluoranthene | mg/kg | 0.017 | 6.300[#1] | | <0.017 | - | <0.017 | <0.017 | <0.1 - 0.0387 | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 | 0.05 | <0.08 | <0.08 | <0.08 | <0.08 |
| | Pyrene | mg/kg | 0.015 | 15.000[#1] | | <0.015 | - | <0.015 | <0.015 | <0.1 - 0.0333 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.05 | <0.07 | <0.07 | <0.07 | <0.07 |
| | Benz(a)anthracene | mg/kg | 0.014 | 49[#1] | | <0.014 | - | <0.014 | <0.014 | <0.1 - 0.0188 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| | Chrysene | mg/kg | 0.01 | 93[#1] | | <0.01 | - | <0.01 | <0.01 | <0.1 - 0.0183 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.03 | <0.06 | <0.06 | <0.06 | <0.06 |
| | Benzo(a) pyrene | mg/kg | 0.015 | 21[#2] | | <0.015 | - | <0.015 | <0.015 | <0.1 - 0.0215 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| | Indeno(1,2,3-c,d)pyrene | mg/kg | 0.018 | 150[#1] | | <0.018 | - | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| | Dibenz(a,h)anthracene | mg/kg | 0.023 | 1.1[#1] | | <0.023 | - | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.03 | <0.04 | <0.04 | <0.04 | <0.04 |
| | Benzo(g,h,i)perylene | mg/kg | 0.024 | 1.400[#1] | | <0.024 | - | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.03 | <0.05 | <0.05 | <0.05 | <0.05 |
| | Benzo(b)fluoranthene | mg/kg | 0.015 | 13[#1] | | <0.015 | - | <0.015 | <0.015 | <0.1 - 0.0337 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.04 | <0.05 | <0.05 | <0.05 | <0.05 |
| | Benzo(k)fluoranthene | mg/kg | 0.014 | 370[#1] | | <0.014 | - | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.03 | <0.07 | <0.07 | <0.07 | <0.07 |
| | Benzo(b)&(k)fluoranthene | mg/kg | | | | <0.029 | - | <0.029 | <0.029 | 0.0477 | <0.029 | <0.029 | <0.029 | <0.029 | <0.029 | <0.029 | <0.029 | <0.029 | <0.029 | 0.07 | <0.12 | <0.12 | <0.12 | <0.12 |
| | PAHs (sum of 4) | mg/kg | | | | <0.071 | - | <0.071 | <0.071 | 0.0897 | <0.071 | <0.071 | <0.071 | <0.071 | <0.071 | <0.071 | <0.071 | <0.071 | <0.071 | 0.13 | <0.2 | <0.2 | <0.2 | <0.2 |
| | PAH 16 Total | mg/kg | 0.1 | | | <0.118 | - | <0.118 | <0.118 | 0.164 | <0.118 | <0.118 | <0.118 | <0.118 | <0.118 | <0.118 | <0.118 | <0.118 | <0.118 | 0.23 | <0.08 | <0.08 | <0.08 | <0.08 |
| | PAH 17 Total | mg/kg | 10 | | | - | - | - | - | - | - | - | - | - | - | - | <10 | - | <10 | - | <0.08 | - | <0.08 | <0.08 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | mg/kg | | | | <0.042 | - | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.06 | <0.08 | <0.08 | <0.08 | <0.08 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | mg/kg | | 4.4[#1] | | <0.015 | - | <0.015 | <0.015 | 0.0215 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.04 | <0.04 | <0.04 | <0.04 | <0.04 |
| SVOC | | | | | | | | | | | | | | | | | | | | | | | | |
| | SVOC TICs | mg/kg | 0.1 | | | - | - | - | - | <1 | - | - | - | - | - | <1 | - | - | - | - | - | - | - | - |
| | Coronene | mg/kg | 0.2 | | | - | - | - | - | - | - | - | - | - | - | - | <0.2 | - | <0.2 | - | - | - | - | - |
| | 2-chlorophenol | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2-methylphenol | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2-nitrophenol | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2,4-dichlorophenol | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2,4-dimethylphenol | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2,4,5-trichlorophenol | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2,4,6-trichlorophenol | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 4-chloro-3-methylphenol | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 4-methylphenol | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 4-nitrophenol | mg/kg | 0.1 | | | - | - | - | - | <0.5 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Pentachlorophenol | mg/kg | 0.1 | 110[#1] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Phenol | mg/kg | 0.01 | 440[#1] | | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.3 | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2-chloronaphthalene | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2-methylnaphthalene | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Bis(2-ethylhexyl) phthalate | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Butyl benzyl phthalate | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Di-n-butyl phthalate | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Di-n-octyl phthalate | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | 2.04 | 2.08 | <0.1 | <0.1 |
| | Diethylphthalate | mg/kg | 0.1 | | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |

| | | Units | Method Detection Limit | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_1 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | DTP70701 | DTP70702 | DTP70703 | | R70105 | R70106 | | R70107 | R70108 | | R70112 | | R70115 | R70301 | R70901 | SA501 | | STP501 | |
| | | | | | Depth Range (m) | 0.5 | 0.3 | 0.5 | 1.5 | 0-0.1 | 0.3 | 1 | 0.5 | 0.3-0.4 | 1-1.1 | 0.25 | 1 | 0.3-0.4 | 0.6 | 0.2 | 0.1-0.3 | 1-1 | 0.5-0.5 | 1-1 |
| | | | | | Date | 23/09/2020 | 15/09/2020 | 16/09/2020 | 16/09/2020 | 23/09/2020 | 23/09/2020 | 23/09/2020 | 25/09/2020 | 28/09/2020 | 28/09/2020 | 05/10/2020 | 05/10/2020 | 08/10/2020 | 11/09/2020 | 24/06/2019 | 09/03/2017 | 09/03/2017 | 27/02/2017 | 27/02/2017 |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | | | Lab Report Number | 574116 | 571081 | 569678 | 569678 | 571021 | 571021 | 571021 | 580778 | 575652 | 575652 | 580694 | 580694 | 572420 | 575650 | 755463-3 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| | Dimethyl phthalate | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2-nitroaniline | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| | 3-nitroaniline | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| | 4-bromophenyl phenyl ether | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| | 4-chloroaniline | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| | 4-chlorophenyl phenyl ether | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| | 4-nitroaniline | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| | Azobenzene | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| | Bis(2-chloroethoxy) methane | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Bis(2-chloroethyl)ether | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Carbazole | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Dibenzofuran | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Hexachlorocyclopentadiene | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.5 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Hexachloroethane | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Isophorone | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | N-nitrosodi-n-propylamine | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Bis(2-chloroisopropyl) ether | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Perylene | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Bis(2-chloroisopropyl)ether | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| | Phenols | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.2 |
| PCBs | | | | [redacted] | | | | | | | | | | | | | | | | | | | | |
| | PCB 118 | mg/kg | 0.003 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | <0.003 | - | <0.003 | - | - | - | - | - |
| | PCB 28 | mg/kg | 0.003 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | <0.003 | - | <0.003 | - | - | - | - | - |
| | PCB 52 | mg/kg | 0.003 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | <0.003 | - | <0.003 | - | - | - | - | - |
| | PCB 101 | mg/kg | 0.003 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | <0.003 | - | <0.003 | - | - | - | - | - |
| | PCB 138 | mg/kg | 0.003 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | <0.003 | - | <0.003 | - | - | - | - | - |
| | PCB 153 | mg/kg | 0.003 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | <0.003 | - | <0.003 | - | - | - | - | - |
| | PCB 180 | mg/kg | 0.003 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | <0.003 | - | <0.003 | - | - | - | - | - |
| | PCBs (Sum of total) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.007 | - | <0.007 | <0.007 |
| | Total PCB 7 Congeners | mg/kg | 0.021 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | <0.021 | - | <0.021 | - | - | - | - | - |
| Herbicides and Pesticides | | | | [redacted] | | | | | | | | | | | | | | | | | | | | |
| | Permethrin I | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Quintozene; (PCNB) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Baythroid | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 |
| | gamma-HCH | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Aldrin | mg/kg | 0.05 | 30[#1] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | a-BHC | mg/kg | 0.05 | 47[#1] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | b-BHC | mg/kg | 0.05 | 15[#1] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Chlorothalonil | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Chlordane (cis) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Dieldrin | mg/kg | 0.05 | 30[#1] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Endosulfan I | mg/kg | 0.05 | 2,400[#1] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Endosulfan II | mg/kg | 0.05 | 2,400[#1] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Endosulfan sulphate | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Endrin | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | g-BHC (Lindane) | mg/kg | 0.05 | 14[#1] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | - | - | - | - |
| | Heptachlor | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Heptachlor epoxide | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Isodrin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | o,p''-DDE | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | o,p''-Methoxychlor | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | o,p-DDD | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | 4,4-DDE | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | DDT | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | - | - | - | - |
| | Methoxychlor | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | DDD | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Pendimethalin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Permethrin II | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Tecnazene | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Telodrin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Chlordane (trans) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Triadimefon | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Triallate | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Trifluralin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Aldrin + Dieldrin | mg/kg | | [redacted] | | <0.1 | - | - | - | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Azinphos Ethyl | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Azinophos methyl | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Carbophenothion | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Chlorfenvinphos | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Chlorpyrifos | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Chlorpyrifos-methyl | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Diazinon | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Dichlorvos | mg/kg | 0.05 | 26[#1] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Dimethoate | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Ethion | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Parathion | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |

| | | Units | Method Detection Limit | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_1 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | DTP70701 | DTP70702 | DTP70703 | | R70105 | R70106 | | R70107 | R70108 | | R70112 | | R70115 | R70301 | R70901 | SA501 | | STP501 | |
| | | | | | Depth Range (m) | 0.5 | 0.3 | 0.5 | 1.5 | 0-0.1 | 0.3 | 1 | 0.5 | 0.3-0.4 | 1-1.1 | 0.25 | 1 | 0.3-0.4 | 0.6 | 0.2 | 0.1-0.3 | 1-1 | 0.5-0.5 | 1-1 |
| | | | | | Date | 23/09/2020 | 15/09/2020 | 16/09/2020 | 16/09/2020 | 23/09/2020 | 23/09/2020 | 23/09/2020 | 25/09/2020 | 28/09/2020 | 28/09/2020 | 05/10/2020 | 05/10/2020 | 08/10/2020 | 11/09/2020 | 24/06/2019 | 09/03/2017 | 09/03/2017 | 27/02/2017 | 27/02/2017 |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | | | Lab Report Number | 574116 | 571081 | 569678 | 569678 | 571021 | 571021 | 571021 | 580778 | 575652 | 575652 | 580694 | 580694 | 572420 | 575650 | 755463-3 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| | Etrimphos | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Fenitrothion | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Fenthion | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Malathion | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Methyl parathion | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Mevinphos (Phosdrin) | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Phosalone | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Pirimiphos-methyl | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Propetamphos | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Triazophos | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Disulfoton | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Phorate | mg/kg | 0.05 | [redacted] | | <0.05 | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | - | - | - | - |
| | Cyhalothrin/Karate | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Cypermethrins(total) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Deltamethrin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Fenvalerate | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Permethrin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Aldrin+Dieldrin+Endrin+Isodrin | mg/kg | | [redacted] | | <0.15 | - | - | - | <0.15 | - | - | <0.15 | - | - | - | - | <0.15 | <0.15 | - | <0.2 | <0.2 | <0.2 | <0.2 |
| | Atrazine | mg/kg | 0.05 | 2.300[#1] | | - | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Simazine | mg/kg | 0.05 | [redacted] | | - | - | - | - | <0.05 | - | - | <0.05 | - | - | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Ametryn | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Atraton | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Prometon | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Prometryn | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Propazine | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Simetryn | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Terbutryn | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | p,p-DDT | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | o,p DDT | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Terbutylazine | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| | Cyfluthrin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | - | - |
| Explosives | | | | [redacted] | | | | | | | | | | | | | | | | | | | | |
| | 2,4-Dinitrotoluene | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | 2,6-dinitrotoluene | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| | Nitrobenzene | mg/kg | 0.1 | [redacted] | | - | - | - | - | <0.1 | - | - | - | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Metals | | | | [redacted] | | | | | | | | | | | | | | | | | | | | |
| | Antimony | mg/kg | 0.6 | [redacted] | | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <1 | <0.01 | - | <0.01 | <0.01 |
| | Arsenic | mg/kg | 0.2 | 170[#2] | | 2.56 | 4.94 | 1.6 | 0.75 | 4.73 | 0.605 | <0.6 | 2.99 | 0.649 | <0.6 | 3.85 | <0.6 | <0.6 | 2.11 | 8.6 | 3 | <1 | <1 | <1 |
| | Barium | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 32 | 14 | 47 | 14 |
| | Beryllium | mg/kg | 0.01 | 63[#1] | | 0.381 | 0.438 | 0.217 | 0.0849 | 0.308 | 0.0736 | 0.0539 | 0.357 | 0.0974 | 0.0481 | 0.301 | 0.0713 | 0.0646 | 0.171 | 0.6 | <1 | <1 | <1 | <1 |
| | Boron | mg/kg | 0.7 | 46,000[#1] | | 17.6 | 6.89 | 2.56 | 1.6 | 6.56 | 1.81 | 1.19 | 5.6 | 2.22 | 1.43 | 8.1 | 1.54 | 1.9 | 3.92 | - | - | - | - | - |
| | Cadmium | mg/kg | 0.02 | 880[#2] | | 0.243 | 0.373 | 0.132 | 0.0711 | 0.337 | 0.124 | 0.0972 | 0.298 | 0.144 | 0.0845 | 0.374 | 0.148 | 0.144 | 0.127 | 0.5 | <0.5 | <0.5 | 0.7 | <0.5 |
| | Chromium (III+VI) | mg/kg | 0.9 | e either CrIII or CrV | | 8.02 | 10.8 | 4.56 | 1.51 | 9.27 | 1.95 | 1.09 | 7.27 | 3.14 | 1.08 | 7.29 | 1.27 | 2.06 | 5.43 | - | 10 | 2 | 11 | 3 |
| | Copper | mg/kg | 0.2 | 44,000[#1] | | 4.29 | 6.23 | 2.2 | 1.68 | 6 | <1.4 | <1.4 | 4.01 | <1.4 | <1.4 | 7.74 | <1.4 | <1.4 | 3.15 | 19 | 8 | 2 | 7 | 2 |
| | Iron | mg/kg | 25 | [redacted] | | 7,930 | 10,800 | 4,500 | 1,330 | 6,550 | 1,140 | <1,000 | 6,180 | 1,470 | <1,000 | 6,270 | <1,000 | <1,000 | 5,290 | 18,000 | - | - | - | - |
| | Lead | mg/kg | 0.3 | 1,300[#2] | | 7.39 | 14.6 | 2.96 | 0.769 | 8.94 | <0.7 | <0.7 | 5.85 | <0.7 | <0.7 | 12.3 | <0.7 | <0.7 | 1.44 | 29 | 16 | 2 | 8 | <1 |
| | Manganese | mg/kg | 0.13 | [redacted] | | 570 | 642 | 250 | 180 | 497 | 167 | 144 | 478 | 224 | 157 | 581 | 171 | 184 | 324 | 910 | 476 | 227 | 647 | 187 |
| | Mercury | mg/kg | 0.05 | 240[#1] | | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.05 | 0.43 | 0.73 | 0.42 | 0.77 |
| | Molybdenum | mg/kg | 0.1 | [redacted] | | 0.172 | 0.182 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.209 | <0.1 | <0.1 | 0.173 | <0.1 | <0.1 | <0.1 | <0.4 | <1 | <1 | <1 | <1 |
| | Nickel | mg/kg | 0.2 | 800[#1] | | 9.17 | 12.2 | 5.7 | 3.54 | 6.71 | 1.57 | 1.2 | 6.54 | 2 | 0.99 | 7.87 | 2.74 | 1.39 | 5.93 | 23 | 7 | 4 | 11 | 3 |
| | Phosphorus | mg/kg | 1 | [redacted] | | 700 | 968 | 454 | 337 | 1,270 | 407 | 336 | 942 | 517 | 567 | 1,460 | 464 | 457 | 659 | 1,100 | - | - | - | - |
| | Selenium | mg/kg | 0.5 | 1,800[#1] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 2.2 | <1 | <1 | <1 | <1 |
| | Vanadium | mg/kg | | 5,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 15 | 3 | 15 | 3 |
| | Zinc | mg/kg | 1 | 170,000[#1] | | 41.1 | 52.1 | 18.3 | 10.4 | 45.3 | 9.85 | 9.51 | 41.2 | 12.3 | 7.68 | 53.5 | 11.4 | 9.42 | 20.8 | 93 | 38 | 12 | 47 | 9 |
| | Boron (Water Soluble) | mg/kg | 0.2 | 46,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.2 | 1.1 | <1 | 1.2 | <1 |
| | Chromium (hexavalent) | mg/kg | 0.6 | 250[#2] | | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <1 | <1 | <1 | <1 | <1 |
| | Chromium (Trivalent) | mg/kg | 0.15 | 33,000[#1] | | 8.02 | 10.8 | 4.56 | 1.51 | 9.27 | 1.95 | 1.09 | 7.27 | 3.14 | 1.08 | 7.29 | 1.27 | 2.06 | 5.43 | 18 | 10 | 2 | 11 | 3 |
| Inorganics | | | | [redacted] | | | | | | | | | | | | | | | | | | | | |
| | Sulphur | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <5 | <5 | <5 | <5 |
| | Cyanide (Free) | mg/kg | 0.1 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <1 | <1 | <1 | <1 |
| | Cyanide Total | mg/kg | 0.1 | [redacted] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 0.2 | <1 | <1 | <1 | <1 |
| | Fluoride | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | - | 3 | <1 |
| | Sulphate | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | - | <10 | <10 |
| | Chloride | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | - | <10 | <10 |
| | Ammoniacal Nitrogen as N | mg/kg | 0.5 | [redacted] | | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | 5.5 | - | - | - | - |
| | Easily Liberated Sulphide (Moisture Corrected) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <15 | <15 | <15 | <15 |
| | Soluble Sulphate 2:1 extract as SO4 BRE | g/L | 0.01 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.62 | - | - | - | - |
| | Sulphate (soluble) | g/L | 0.004 | [redacted] | | <0.004 | <0.004 | 0.0071 | 0.0125 | 0.0091 | <0.004 | <0.004 | 0.0133 | 0.004 | 0.0045 | <0.004 | 0.0101 | <0.004 | 0.0116 | - | <0.01 | 0.01 | <0.01 | <0.01 |
| | TDS | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 614 | - | 455 | 275 |
| Other | | | | [redacted] | | | | | | | | | | | | | | | | | | | | |
| | Dry Matter (DM) content | % w/w | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 78.3 | - | 83.2 | 81.3 |
| | Loss on ignition | % | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.6 | - | 4.8 | 0.9 |
| | ANC at pH 4 | mol/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9.1 | - | 6.55 | 14.5 |
| | ANC pH_6 dry soil | mol/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.14 | - | 0.19 | 0.69 |
| | Organic Matter | % | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 0.1 | 1.7 | 0.1 |
| | Moisture | % | | [redacted] | | 6.6 | 14 | 12 | 17 | 19 | 16 | 16 | 6.3 | 16 | 9.8 | 25 | 20 | 21 | 12 | - | - | - | - | - |

| | | Units | Method Detection Limit | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_1 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | DTP70701 | DTP70702 | DTP70703 | | R70105 | R70106 | | R70107 | R70108 | | R70112 | | R70115 | R70301 | R70901 | SA501 | | STP501 | |
| | | | | | Depth Range (m) | 0.5 | 0.3 | 0.5 | 1.5 | 0-0.1 | 0.3 | 1 | 0.5 | 0.3-0.4 | 1-1.1 | 0.25 | 1 | 0.3-0.4 | 0.6 | 0.2 | 0.1-0.3 | 1-1 | 0.5-0.5 | 1-1 |
| | | | | | Date | 23/09/2020 | 15/09/2020 | 16/09/2020 | 16/09/2020 | 23/09/2020 | 23/09/2020 | 23/09/2020 | 25/09/2020 | 28/09/2020 | 28/09/2020 | 05/10/2020 | 05/10/2020 | 08/10/2020 | 11/09/2020 | 24/06/2019 | 09/03/2017 | 09/03/2017 | 27/02/2017 | 27/02/2017 |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | | | Lab Report Number | 574116 | 571081 | 569678 | 569678 | 571021 | 571021 | 571021 | 580778 | 575652 | 575652 | 580694 | 580694 | 572420 | 575650 | 755463-3 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| | % Stones >10mm | % w/w | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.9 | <0.1 | 17.9 | <0.1 |
| | Fraction Organic Carbon | % | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.77 | 0.07 | 1.02 | 0.07 |
| | pH (Lab) | pH_Units | 1 | [redacted] | | 8.69 | 8.24 | 8.95 | 8.99 | 8.05 | 8.61 | 9.2 | 8.22 | 8.41 | 9.14 | 8.02 | 8.82 | 8.45 | 8.67 | - | 8.18 | 8.87 | 8.2 | 8.74 |
| | TOC | % | 0.1 | [redacted] | | 0.779 | 1.37 | 0.21 | <0.2 | 2.29 | <0.2 | <0.2 | 0.901 | 0.393 | <0.2 | 1.94 | <0.2 | 0.227 | 0.387 | 4.4 | - | - | - | - |
| Asbestos | | | | [redacted] | | | | | | | | | | | | | | | | | | | | |
| | Asbestos Identification | None | | [redacted] | | - | - | - | - | - | - | - | - | - | - | Not Detected | - | - | - | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected |
| Field | | | | [redacted] | | | | | | | | | | | | | | | | | | | | |
| | pH | pH_Units | 0 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.38 | 7.01 | 8.68 | 7.47 |
| | Electrical Conductivity | µS/cm | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 205 | - | 155 | 105 |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
#3:CL:AIRE C4SL 2021
#4: LQM/CIEH S4ULs 2015 for TPH CWG >EC21-EC35 Aromatics as proxy criteria
#5: LQM/CIEH S4ULs 2015 for TPH CWG >EC8-EC10 Aliphatics as proxy criteria
#6: LQM/CIEH S4ULs 2015 for TPH CWG >EC8-EC10 Aromatics as proxy criteria
#7: LQM/CIEH S4ULs 2015 for TPH CWG >EC10-EC12 Aliphatics as proxy criteria
#8: LQM/CIEH S4ULs 2015 for TPH CWG >EC16-EC21 Aromatics as proxy criteria

S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
[redacted] Exceedance of Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC

| | | Units | Method Detection Limit | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | STP70118 | STP70402 | STP70501 | | | STP70504 | STP70506 | STP70508 | STP70601 | STP70602 | | STP70801 | | | | | |
| | | | | | Depth Range (m) | 0.3 | 0.3 | 0.3-0.3 | 0.5-0.5 | 2-2 | 0.3-0.3 | 0.5 | 0.5 | 0.5 | 0.3 | 0.9 | 0.5 | 2.1 | | | | |
| | | | | | Date | 25/09/2020 | 17/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 09/09/2020 | 11/09/2020 | 23/09/2020 | 06/10/2020 | 06/10/2020 | 09/09/2019 | 09/09/2019 | | | | |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | | | Lab Report Number | 580778 | 569578 | 575652 | 575652 | 575652 | 575652 | 575650 | 575650 | 574116 | 572605 | 572605 | 19-18545 | 19-18545 | | | | |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | |
| | GRO >C5-C10 | mg/kg | 0.02 | | | <0.02 | <0.02 | <0.02 | - | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | - | - | 23 | 0 | ND | 0 |
| | >C5-C6 Aliphatics | mg/kg | 0.01 | 95,000[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 30 | 0 | ND | 0 |
| | >C6-C8 Aliphatics | mg/kg | 0.01 | 150,000[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 30 | 0 | ND | 0 |
| | >C8-C10 Aliphatics | mg/kg | 0.01 | 14,000[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 30 | 0 | ND | 0 |
| | >C10-C12 Aliphatics | mg/kg | 1 | 21,000[#1] | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1.5 | <1.5 | 30 | 0 | ND | 0 |
| | >C12-C16 Aliphatics | mg/kg | 1 | 25,000[#1] | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1.2 | <1.2 | 30 | 0 | ND | 0 |
| | >C16-C21 Aliphatics | mg/kg | 1 | | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1.5 | <1.5 | 30 | 0 | ND | 0 |
| | >C16-C35 Aliphatics | mg/kg | | 450,000[#1] | | 9.23 | 10.38 | 8.3 | - | <2 | 5 | 5.24 | 2.31 | 2.33 | 7.58 | <2 | <4.9 | <4.9 | 30 | 15 | 16.4 | 0 |
| | >C21-C35 Aliphatics | mg/kg | 1 | 7,800[#4] | | 8.23 | 9.38 | 7.3 | - | <1 | 4 | 4.24 | 1.31 | 1.33 | 6.58 | <1 | <3.4 | <3.4 | 30 | 15 | 15.4 | 0 |
| | >C35-C44 Aliphatics | mg/kg | 1 | 450,000[#1] | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | - | 23 | 1 | 1.3 | 0 |
| | >C5-C35 Aliphatics | mg/kg | 10 | | | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | 3 | 0 | ND | 0 |
| | >C6-C7 Aromatics | mg/kg | 0.01 | | | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 3 | 0 | ND | 0 |
| | >C7-C8 Aromatics | mg/kg | 0.01 | | | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 3 | 0 | ND | 0 |
| | >C8 -C10 Aromatics | mg/kg | 0.01 | | | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 3 | 0 | ND | 0 |
| | >EC5-EC7 Aromatics | mg/kg | 0.01 | 76,000[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | 27 | 0 | ND | 0 |
| | >EC7-EC8 Aromatics | mg/kg | 0.01 | 87,000[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | 27 | 0 | ND | 0 |
| | >EC8-EC10 Aromatics | mg/kg | 0.01 | 7,200[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | 23 | 0 | ND | 0 |
| | >EC8-EC9 Aromatics | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | >EC9-EC10 Aromatics | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | >EC10-EC12 Aromatics | mg/kg | 0.9 | 9,200[#1] | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.9 | <0.9 | 30 | 0 | ND | 0 |
| | >EC12-EC16 Aromatics | mg/kg | 0.5 | 10,000[#1] | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1.1 | <0.5 | 30 | 1 | 1.1 | 0 |
| | >EC16-EC21 Aromatics | mg/kg | 0.6 | 7,600[#1] | | - | - | - | - | - | - | - | - | - | - | - | 13 | <0.6 | 7 | 1 | 13 | 0 |
| | >EC21-EC35 Aromatics | mg/kg | 1.4 | 7,800[#1] | | - | - | - | - | - | - | - | - | - | - | - | 10 | <1.4 | 7 | 1 | 10 | 0 |
| | >EC35-EC44 Aromatics | mg/kg | 1 | 7,800[#1] | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | - | 23 | 1 | 1.09 | 0 |
| | >C5-C35 Aromatics | mg/kg | 10 | 14,000[#5] | | - | - | - | - | - | - | - | - | - | - | - | 25 | <10 | 3 | 1 | 25 | 0 |
| | >C5-C35 Aliphatics & Aromatics | mg/kg | 10 | 7,200[#6] | | - | - | - | - | - | - | - | - | - | - | - | 25 | <10 | 3 | 1 | 25 | 0 |
| | Mineral Oil (C10-C40) | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | mineral oil | mg/kg | 5 | | | - | - | - | 6.49 | - | - | - | - | - | - | - | - | - | 3 | 1 | 6.49 | 0 |
| | Total Aliphatics | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Total Aromatics | mg/kg | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Aromatics > EC16-EC21 | mg/kg | 1 | | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | - | 23 | 0 | ND | 0 |
| | Aromatics > EC21-EC35 | mg/kg | 1 | 7,600[#1] | | 1.24 | 3.02 | 1.2 | - | <1 | 1.54 | 1.18 | <1 | 2.16 | 1.92 | <1 | - | - | 23 | 11 | 7.16 | 0 |
| | Aromatics > EC40-EC44 | mg/kg | 1 | | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | - | 23 | 0 | ND | 0 |
| | TPH (Ali & Aro) | mg/kg | 10 | | | 11.4 | 13.8 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | 27 | 4 | 26.2 | 0 |
| | Total Aliphatics >C10-C44 | mg/kg | 5 | 21,000[#7] | | 8.45 | 9.69 | 7.64 | - | <5 | <5 | <5 | <5 | <5 | 7.04 | <5 | - | - | 23 | 6 | 17.5 | 0 |
| | Total Aromatics > EC10-EC44 | mg/kg | 5 | 7,600[#8] | | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | 23 | 1 | 8.71 | 0 |
| VOC | | | | | | | | | | | | | | | | | | | | | | |
| | Dichlorodifluoromethane | mg/kg | 0.006 | | | - | - | <0.12 | - | - | - | - | <0.006 | - | <0.006 | - | - | - | 9 | 0 | ND | 0 |
| | MTBE | mg/kg | 0.01 | | | <0.01 | <0.01 | <0.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 31 | 0 | ND | 0 |
| | Chloromethane | mg/kg | 0.007 | | | - | - | <0.14 | - | - | - | - | <0.007 | - | <0.007 | - | - | - | 9 | 0 | ND | 0 |
| | Vinyl chloride | mg/kg | 0.006 | 18[#3] | | - | - | <0.12 | - | - | - | - | <0.006 | - | <0.006 | - | - | - | 9 | 0 | ND | 0 |
| | Bromomethane | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Chloroethane | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Trichlorofluoromethane | mg/kg | 0.006 | | | - | - | <0.12 | - | - | - | - | <0.006 | - | <0.006 | - | - | - | 9 | 0 | ND | 0 |
| | 1,1-dichloroethene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Dichloromethane | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 2 | 0.0497 | 0 |
| | trans-1,2-dichloroethene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | 1,1-dichloroethane | mg/kg | 0.008 | | | - | - | <0.16 | - | - | - | - | <0.008 | - | <0.008 | - | - | - | 9 | 0 | ND | 0 |
| | cis-1,2-dichloroethene | mg/kg | 0.006 | | | - | - | <0.12 | - | - | - | - | <0.006 | - | <0.006 | - | - | - | 9 | 0 | ND | 0 |
| | 2,2-dichloropropane | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Bromochloromethane | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Chloroform | mg/kg | 0.008 | 2,600[#1] | | - | - | <0.16 | - | - | - | - | <0.008 | - | <0.008 | - | - | - | 9 | 0 | ND | 0 |
| | 1,1,1-trichloroethane | mg/kg | 0.007 | 57,000[#1] | | - | - | <0.14 | - | - | - | - | <0.007 | - | <0.007 | - | - | - | 9 | 0 | ND | 0 |
| | 1,1-dichloropropene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Carbon tetrachloride | mg/kg | 0.01 | 190[#1] | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2-dichloroethane | mg/kg | 0.005 | 21[#1] | | - | - | <0.1 | - | - | - | - | <0.005 | - | <0.005 | - | - | - | 9 | 0 | ND | 0 |
| | Benzene | mg/kg | 0.009 | 230[#2] | | <0.009 | <0.009 | <0.18 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.01 | <0.01 | 31 | 0 | ND | 0 |
| | Trichloroethene | mg/kg | 0.009 | 41[#3] | | - | - | <0.18 | - | - | - | - | <0.009 | - | <0.009 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2-dichloropropane | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Dibromomethane | mg/kg | 0.009 | | | - | - | <0.18 | - | - | - | - | <0.009 | - | <0.009 | - | - | - | 9 | 0 | ND | 0 |
| | Bromodichloromethane | mg/kg | 0.007 | | | - | - | <0.14 | - | - | - | - | <0.007 | - | <0.007 | - | - | - | 9 | 0 | ND | 0 |
| | cis-1,3-dichloropropene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Toluene | mg/kg | 0.007 | 87,000[#1] | | <0.007 | <0.007 | <0.14 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.01 | <0.01 | 31 | 0 | ND | 0 |
| | trans-1,3-dichloropropene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | 1,1,2-trichloroethane | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Tetrachloroethene | mg/kg | 0.005 | 1,400[#3] | | - | - | <0.1 | - | - | - | - | <0.005 | - | <0.005 | - | - | - | 9 | 0 | ND | 0 |
| | 1,3-dichloropropane | mg/kg | 0.007 | | | - | - | <0.14 | - | - | - | - | <0.007 | - | <0.007 | - | - | - | 9 | 0 | ND | 0 |
| | Sum of PCE and TCE | mg/kg | | | | - | - | <0.28 | - | - | - | - | <0.014 | - | <0.014 | - | - | - | 9 | 0 | ND | 0 |
| | Chlorodibromomethane | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2-dibromoethane | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Chlorobenzene | mg/kg | 0.005 | 1,300[#1] | | - | - | <0.1 | - | - | - | - | <0.005 | - | <0.005 | - | - | - | 9 | 0 | ND | 0 |
| | 1,1,1,2-tetrachloroethane | mg/kg | 0.01 | 1,500[#1] | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Ethylbenzene | mg/kg | 0.004 | 17,000[#1] | | <0.004 | <0.004 | <0.08 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.01 | <0.01 | 31 | 0 | ND | 0 |
| | Xylene (m & p) | mg/kg | 0.01 | | | <0.01 | <0.01 | <0.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | 28 | 0 | ND | 0 |
| | Xylene Total | mg/kg | 0.01 | 17,000[#1] | | <0.02 | <0.02 | <0.4 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.01 | <0.01 | 31 | 0 | ND | 0 |

| | | Units | Method Detection Limit | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | STP70118 | STP70402 | STP70501 | | | STP70504 | STP70506 | STP70508 | STP70601 | STP70602 | | STP70801 | | | | |
| | | | | | Depth Range (m) | 0.3 | 0.3 | 0.3-0.3 | 0.5-0.5 | 2-2 | 0.3-0.3 | 0.5 | 0.5 | 0.5 | 0.3 | 0.9 | 0.5 | 2.1 | | | | |
| | | | | | Date | 25/09/2020 | 17/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 09/09/2020 | 11/09/2020 | 23/09/2020 | 06/10/2020 | 06/10/2020 | 09/09/2019 | 09/09/2019 | | | | |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | | | Lab Report Number | 580778 | 569578 | 575652 | 575652 | 575652 | 575652 | 575650 | 575650 | 574116 | 572605 | 572605 | 19-18545 | 19-18545 | | | | |
| | Xylene (o) | mg/kg | 0.01 | 17.000[#1] | | <0.01 | <0.01 | <0.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | 28 | 0 | ND | 0 |
| | Total BTEX | mg/kg | 0.04 | | | <0.04 | <0.04 | <0.8 | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - | - | 26 | 0 | ND | 0 |
| | Styrene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Bromoform | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Isopropylbenzene | mg/kg | 0.005 | | | - | - | <0.1 | - | - | - | - | <0.005 | - | <0.005 | - | - | - | 9 | 0 | ND | 0 |
| | 1,1,2,2-tetrachloroethane | mg/kg | 0.01 | 1.800[#1] | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | Bromobenzene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2,3-trichloropropane | mg/kg | 0.016 | | | - | - | <0.32 | - | - | - | - | <0.016 | - | <0.016 | - | - | - | 9 | 0 | ND | 0 |
| | n-propylbenzene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | 2-chlorotoluene | mg/kg | 0.009 | | | - | - | <0.18 | - | - | - | - | <0.009 | - | <0.009 | - | - | - | 9 | 0 | ND | 0 |
| | 1,3,5-trimethylbenzene | mg/kg | 0.008 | | | - | - | <0.16 | - | - | - | - | <0.008 | - | <0.008 | - | - | - | 9 | 0 | ND | 0 |
| | 4-chlorotoluene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | tert-butylbenzene | mg/kg | 0.014 | | | - | - | <0.28 | - | - | - | - | <0.014 | - | <0.014 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2,4-trimethylbenzene | mg/kg | 0.009 | | | - | - | <0.18 | - | - | - | - | <0.009 | - | <0.009 | - | - | - | 9 | 0 | ND | 0 |
| | sec-butylbenzene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | p-isopropyltoluene | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | 1,3-dichlorobenzene | mg/kg | 0.008 | 390[#1] | | - | - | <0.1 | - | - | - | - | <0.008 | - | <0.008 | - | - | - | 9 | 0 | ND | 0 |
| | 1,4-dichlorobenzene | mg/kg | 0.005 | 36.000[#1] | | - | - | <0.1 | - | - | - | - | <0.005 | - | <0.005 | - | - | - | 9 | 0 | ND | 0 |
| | n-butylbenzene | mg/kg | 0.011 | | | - | - | <0.22 | - | - | - | - | <0.011 | - | <0.011 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2-dichlorobenzene | mg/kg | 0.01 | 24.000[#1] | | - | - | <0.1 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2-dibromo-3-chloropropane | mg/kg | 0.014 | | | - | - | <0.28 | - | - | - | - | <0.014 | - | <0.014 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2,4-trichlorobenzene | mg/kg | 0.02 | 1.700[#1] | | - | - | <0.1 | - | - | - | - | <0.02 | - | <0.02 | - | - | - | 9 | 0 | ND | 0 |
| | Hexachlorobutadiene | mg/kg | 0.02 | 48[#1] | | - | - | <0.1 | - | - | - | - | <0.02 | - | <0.02 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2,3-trichlorobenzene | mg/kg | 0.02 | 770[#1] | | - | - | <0.4 | - | - | - | - | <0.02 | - | <0.02 | - | - | - | 9 | 0 | ND | 0 |
| | 1,2-Dichloroethene | mg/kg | | | | - | - | <0.32 | - | - | - | - | <0.016 | - | <0.016 | - | - | - | 9 | 0 | ND | 0 |
| | Trihalomethanes | mg/kg | | | | - | - | <0.7 | - | - | - | - | <0.035 | - | <0.035 | - | - | - | 9 | 0 | ND | 0 |
| | VOC TICs | mg/kg | 0.05 | | | - | - | <1 | - | - | - | - | <0.05 | - | <0.05 | - | - | - | 5 | 0 | ND | 0 |
| | Carbon disulfide | mg/kg | 0.007 | 1.300[#1] | | - | - | <0.14 | - | - | - | - | <0.007 | - | <0.007 | - | - | - | 9 | 0 | ND | 0 |
| | Hexachlorobenzene | mg/kg | 0.1 | 30[#1] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Tert Amyl Methyl Ether | mg/kg | 0.01 | | | - | - | <0.2 | - | - | - | - | <0.01 | - | <0.01 | - | - | - | 5 | 0 | ND | 0 |
| | Trichlorobenzene (total) | mg/kg | | | | - | - | <0.5 | - | - | - | - | <0.04 | - | <0.04 | - | - | - | 9 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | | | | | | | | |
| | Naphthalene | mg/kg | 0.009 | 1.200[#1] | | <0.009 | <0.009 | <0.009 | - | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.03 | <0.03 | 30 | 0 | ND | 0 |
| | Acenaphthylene | mg/kg | 0.012 | 29.000[#1] | | <0.012 | <0.012 | <0.012 | - | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | 0.09 | <0.03 | 30 | 1 | 0.09 | 0 |
| | Acenaphthene | mg/kg | 0.008 | 29.000[#1] | | <0.008 | <0.008 | <0.008 | - | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | 0.08 | <0.03 | 30 | 1 | 0.08 | 0 |
| | Fluorene | mg/kg | 0.01 | 20.000[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.07 | <0.03 | 30 | 1 | 0.07 | 0 |
| | Phenanthrene | mg/kg | 0.015 | 6.200[#1] | | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.03 | <0.03 | 30 | 0 | ND | 0 |
| | Anthracene | mg/kg | 0.016 | 150.000[#1] | | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | 4.8 | <0.03 | 30 | 1 | 4.8 | 0 |
| | Fluoranthene | mg/kg | 0.017 | 6.300[#1] | | 0.0219 | <0.017 | <0.017 | - | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 | <0.1 - 0.0348 | <0.017 | 6.8 | <0.03 | 30 | 5 | 6.8 | 0 |
| | Pyrene | mg/kg | 0.015 | 15.000[#1] | | 0.0189 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.1 - 0.0323 | <0.015 | 5.4 | <0.03 | 30 | 5 | 5.4 | 0 |
| | Benz(a)anthracene | mg/kg | 0.014 | 49[#1] | | <0.014 | <0.014 | <0.014 | - | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.1 - 0.0235 | <0.014 | 2.2 | <0.03 | 30 | 4 | 2.2 | 0 |
| | Chrysene | mg/kg | 0.01 | 93[#1] | | 0.0122 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.1 - 0.0234 | <0.01 | 2.4 | <0.03 | 30 | 4 | 2.4 | 0 |
| | Benzo(a) pyrene | mg/kg | 0.015 | 21[#2] | | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.1 - 0.0262 | <0.015 | 1.1 | <0.03 | 30 | 4 | 1.1 | 0 |
| | Indeno(1,2,3-c,d)pyrene | mg/kg | 0.018 | 150[#1] | | <0.018 | <0.018 | <0.018 | - | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | 0.37 | <0.03 | 30 | 1 | 0.37 | 0 |
| | Dibenz(a,h)anthracene | mg/kg | 0.023 | 1.1[#1] | | <0.023 | <0.023 | <0.023 | - | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | 0.09 | <0.03 | 30 | 1 | 0.09 | 0 |
| | Benzo(g,h,i)perylene | mg/kg | 0.024 | 1.400[#1] | | <0.024 | <0.024 | <0.024 | - | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | 0.37 | <0.03 | 30 | 1 | 0.37 | 0 |
| | Benzo(b)fluoranthene | mg/kg | 0.015 | 13[#1] | | 0.0206 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.1 - 0.0284 | <0.015 | 2.2 | <0.03 | 30 | 5 | 2.2 | 0 |
| | Benzo(k)fluoranthene | mg/kg | 0.014 | 370[#1] | | <0.014 | <0.014 | <0.014 | - | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | 0.78 | <0.03 | 30 | 1 | 0.78 | 0 |
| | Benzo(b)&(k)fluoranthene | mg/kg | | | | 0.0346 | <0.029 | <0.029 | - | <0.029 | <0.029 | <0.029 | <0.029 | <0.029 | 0.0424 | <0.029 | 2.98 | <0.06 | 30 | 5 | 2.98 | 0 |
| | PAHs (sum of 4) | mg/kg | | | | 0.0766 | <0.071 | <0.071 | - | <0.071 | <0.071 | <0.071 | <0.071 | <0.071 | 0.0844 | <0.071 | 3.72 | <0.12 | 30 | 5 | 3.72 | 0 |
| | PAH 16 Total | mg/kg | 0.1 | | | <0.118 | <0.118 | <0.118 | - | <0.118 | <0.118 | <0.118 | <0.118 | <0.118 | 0.169 | <0.118 | 27 | <0.1 | 30 | 4 | 27 | 0 |
| | PAH 17 Total | mg/kg | 10 | | | - | - | - | <10 | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | mg/kg | | | | <0.042 | <0.042 | <0.042 | - | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | 0.74 | <0.06 | 30 | 1 | 0.74 | 0 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | mg/kg | | 4.4[#1] | | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.0262 | <0.015 | 1.1 | <0.03 | 30 | 4 | 1.1 | 0 |
| SVOC | | | | | | | | | | | | | | | | | | | | | | |
| | SVOC TICs | mg/kg | 0.1 | | | - | - | <1 | - | - | - | - | <1 | - | <1 | - | - | - | 5 | 0 | ND | 0 |
| | Coronene | mg/kg | 0.2 | | | - | - | - | <0.2 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | 2-chlorophenol | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 2-methylphenol | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 2-nitrophenol | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 2,4-dichlorophenol | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 2,4-dimethylphenol | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 2,4,5-trichlorophenol | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 2,4,6-trichlorophenol | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 4-chloro-3-methylphenol | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 4-methylphenol | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 4-nitrophenol | mg/kg | 0.1 | | | - | - | <0.5 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Pentachlorophenol | mg/kg | 0.1 | 110[#1] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Phenol | mg/kg | 0.01 | 440[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.6 | <0.3 | 30 | 1 | 0.6 | 0 |
| | 2-chloronaphthalene | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 2-methylnaphthalene | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Bis(2-ethylhexyl) phthalate | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Butyl benzyl phthalate | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Di-n-butyl phthalate | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Di-n-octyl phthalate | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 2 | 2.08 | 0 |
| | Diethylphthalate | mg/kg | 0.1 | | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |

| | | Units | Method Detection Limit | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | STP70118 | STP70402 | STP70501 | | | STP70504 | STP70506 | STP70508 | STP70601 | STP70602 | | STP70801 | | | | | |
| | | | | | Depth Range (m) | 0.3 | 0.3 | 0.3-0.3 | 0.5-0.5 | 2-2 | 0.3-0.3 | 0.5 | 0.5 | 0.5 | 0.3 | 0.9 | 0.5 | 2.1 | | | | |
| | | | | | Date | 25/09/2020 | 17/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 09/09/2020 | 11/09/2020 | 23/09/2020 | 06/10/2020 | 06/10/2020 | 09/09/2019 | 09/09/2019 | | | | |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | | | Lab Report Number | 580778 | 569578 | 575652 | 575652 | 575652 | 575652 | 575650 | 575650 | 574116 | 572605 | 572605 | 19-18545 | 19-18545 | | | | |
| | Dimethyl phthalate | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 2-nitroaniline | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 5 | 0 | ND | 0 |
| | 3-nitroaniline | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 5 | 0 | ND | 0 |
| | 4-bromophenyl phenyl ether | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 5 | 0 | ND | 0 |
| | 4-chloroaniline | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 5 | 0 | ND | 0 |
| | 4-chlorophenyl phenyl ether | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 5 | 0 | ND | 0 |
| | 4-nitroaniline | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 5 | 0 | ND | 0 |
| | Azobenzene | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 5 | 0 | ND | 0 |
| | Bis(2-chloroethoxy) methane | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Bis(2-chloroethyl)ether | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Carbazole | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Dibenzofuran | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Hexachlorocyclopentadiene | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Hexachloroethane | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Isophorone | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | N-nitrosodi-n-propylamine | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Bis(2-chloroisopropyl) ether | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Perylene | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Bis(2-chloroisopropyl)ether | mg/kg | 0.1 | [redacted] | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 5 | 0 | ND | 0 |
| | Phenols | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| PCBs | | | | | | | | | | | | | | | | | | | | | | |
| | PCB 118 | mg/kg | 0.003 | [redacted] | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 28 | mg/kg | 0.003 | [redacted] | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 52 | mg/kg | 0.003 | [redacted] | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 101 | mg/kg | 0.003 | [redacted] | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 138 | mg/kg | 0.003 | [redacted] | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 153 | mg/kg | 0.003 | [redacted] | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 180 | mg/kg | 0.003 | [redacted] | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCBs (Sum of total) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Total PCB 7 Congeners | mg/kg | 0.021 | [redacted] | | - | - | - | <0.021 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Herbicides and Pesticides | | | | | | | | | | | | | | | | | | | | | | |
| | Permethrin I | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Quintozene; (PCNB) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Baythroid | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| | gamma-HCH | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Aldrin | mg/kg | 0.05 | 30[#1] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | a-BHC | mg/kg | 0.05 | 47[#1] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | b-BHC | mg/kg | 0.05 | 15[#1] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Chlorothalonil | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Chlordane (cis) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Dieldrin | mg/kg | 0.05 | 30[#1] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Endosulfan I | mg/kg | 0.05 | 2,400[#1] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Endosulfan II | mg/kg | 0.05 | 2,400[#1] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Endosulfan sulphate | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Endrin | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | g-BHC (Lindane) | mg/kg | 0.05 | 14[#1] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 12 | 0 | ND | 0 |
| | Heptachlor | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Heptachlor epoxide | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Isodrin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | o,p''-DDE | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | o,p''-Methoxychlor | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | o,p-DDD | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | 4,4-DDE | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | DDT | mg/kg | 0.05 | [redacted] | | <0.05 | <0.1 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 12 | 0 | ND | 0 |
| | Methoxychlor | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | DDD | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Pendimethalin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Permethrin II | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Tecnazene | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Telodrin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Chlordane (trans) | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Triadimefon | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Triallate | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Trifluralin | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Aldrin + Dieldrin | mg/kg | | [redacted] | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | 16 | 0 | ND | 0 |
| | Azinphos Ethyl | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Azinophos methyl | mg/kg | 0.05 | [redacted] | | <0.05 | <0.1 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Carbophenothion | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Chlorfenvinphos | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Chlorpyrifos | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Chlorpyrifos-methyl | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Diazinon | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Dichlorvos | mg/kg | 0.05 | 26[#1] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Dimethoate | mg/kg | | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Ethion | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Parathion | mg/kg | 0.05 | [redacted] | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |

| | | Units | Method Detection Limit | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | STP70118 | STP70402 | STP70501 | | | STP70504 | STP70506 | STP70508 | STP70601 | STP70602 | | STP70801 | | | | |
| | | | | | Depth Range (m) | 0.3 | 0.3 | 0.3-0.3 | 0.5-0.5 | 2-2 | 0.3-0.3 | 0.5 | 0.5 | 0.5 | 0.3 | 0.9 | 0.5 | 2.1 | | | | |
| | | | | | Date | 25/09/2020 | 17/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 09/09/2020 | 11/09/2020 | 23/09/2020 | 06/10/2020 | 06/10/2020 | 09/09/2019 | 09/09/2019 | | | | |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | | | Lab Report Number | 580778 | 569578 | 575652 | 575652 | 575652 | 575652 | 575650 | 575650 | 574116 | 572605 | 572605 | 19-18545 | 19-18545 | | | | |
| | Etrimphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Fenitrothion | mg/kg | 0.05 | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Fenthion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Malathion | mg/kg | 0.05 | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Methyl parathion | mg/kg | 0.05 | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Mevinphos (Phosdrin) | mg/kg | 0.05 | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Phosalone | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Pirimiphos-methyl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Propetamphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Triazophos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Disulfoton | mg/kg | 0.05 | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 16 | 0 | ND | 0 |
| | Phorate | mg/kg | 0.05 | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 12 | 0 | ND | 0 |
| | Cyhalothrin/Karate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Cypermethrins(total) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Deltamethrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Fenvalerate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Permethrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Aldrin+Dieldrin+Endrin+Isodrin | mg/kg | | | <0.15 | <0.15 | <0.15 | - | - | <0.15 | <0.15 | - | <0.15 | <0.15 | - | - | - | 16 | 0 | ND | 0 |
| | Atrazine | mg/kg | 0.05 | 2.300[#1] | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 15 | 0 | ND | 0 |
| | Simazine | mg/kg | 0.05 | | <0.05 | <0.05 | <0.05 | - | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - | - | - | 15 | 0 | ND | 0 |
| | Ametryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Atraton | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Prometon | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Prometryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Propazine | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Simetryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Terbutryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | p,p-DDT | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | o,p DDT | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Terbutylazine | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Cyfluthrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | | | | | | | |
| | 2,4-Dinitrotoluene | mg/kg | 0.1 | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | 2,6-dinitrotoluene | mg/kg | 0.1 | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| | Nitrobenzene | mg/kg | 0.1 | | - | - | <0.1 | - | - | - | - | <0.1 | - | <0.1 | - | - | - | 9 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | | | | | | | |
| | Antimony | mg/kg | 0.6 | | <0.6 | <0.6 | <0.6 | - | 0.98 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | 1.1 | <1 | 30 | 2 | 1.1 | 0 |
| | Arsenic | mg/kg | 0.2 | 170[#2] | 2.59 | 4.07 | 4.99 | - | 0.85 | 1.48 | 1.45 | 1.55 | <0.6 | 5.43 | <0.6 | 6.9 | 2.5 | 31 | 22 | 8.6 | 0 |
| | Barium | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 47 | 0 |
| | Beryllium | mg/kg | 0.01 | 63[#1] | 0.248 | 0.327 | 0.346 | - | 0.101 | 0.129 | 0.149 | 0.178 | 0.0804 | 0.212 | 0.0552 | 0.4 | <0.2 | 31 | 26 | 0.6 | 0 |
| | Boron | mg/kg | 0.7 | 46,000[#1] | 7.89 | 7.91 | 7.08 | - | 4.53 | 4.03 | 4.03 | 3.48 | 2.08 | 4.9 | 1.76 | - | - | 24 | 24 | 17.6 | 0 |
| | Cadmium | mg/kg | 0.02 | 880[#2] | 0.301 | 0.396 | 0.307 | - | 0.283 | 0.155 | 0.199 | 0.209 | 0.135 | 0.381 | 0.0746 | 0.3 | 0.2 | 31 | 28 | 0.7 | 0 |
| | Chromium (III+VI) | mg/kg | 0.9 | e either CrIII or CrV | 5.02 | 9.36 | 11.5 | - | 3.41 | 4.5 | 3.93 | 4.69 | 1.42 | 5.53 | 1.1 | - | - | 28 | 28 | 11.5 | 0 |
| | Copper | mg/kg | 0.2 | 44,000[#1] | 4.28 | 6.93 | 6.55 | - | 3.17 | 3.59 | 2.32 | 2.18 | <1.4 | 4.04 | <1.4 | 11 | 4.8 | 31 | 23 | 19 | 0 |
| | Iron | mg/kg | 25 | | 4,960 | 7,210 | 9,280 | - | 3,150 | 2,960 | 2,960 | 3,580 | <1,000 | 17,500 | <1,000 | 16,000 | 5,200 | 27 | 21 | 18000 | 0 |
| | Lead | mg/kg | 0.3 | 1,300[#2] | 9.37 | 8.84 | 10.9 | - | 1.92 | 3.17 | 1.1 | <0.7 | <0.7 | 11.6 | <0.7 | 16 | 3.6 | 31 | 21 | 29 | 0 |
| | Manganese | mg/kg | 0.13 | | 453 | 610 | 632 | - | 316 | 288 | 319 | 347 | 193 | 573 | 200 | 570 | 280 | 31 | 31 | 910 | 0 |
| | Mercury | mg/kg | 0.05 | 240[#1] | <0.14 | <0.14 | <0.14 | - | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.05 | <0.05 | 31 | 4 | 0.77 | 0 |
| | Molybdenum | mg/kg | 0.1 | | 0.159 | 0.137 | 0.142 | - | <0.1 | <0.1 | <0.1 | <0.1 | 0.103 | 0.252 | <0.1 | 0.9 | <0.4 | 31 | 10 | 0.9 | 0 |
| | Nickel | mg/kg | 0.2 | 800[#1] | 5.62 | 8.04 | 10.1 | - | 5.9 | 4.13 | 3.5 | 4.33 | 1.27 | 6.35 | 1.68 | 17 | 6.4 | 31 | 31 | 23 | 0 |
| | Phosphorus | mg/kg | 1 | | 1,140 | 1,230 | 1,200 | - | 425 | 814 | 768 | 752 | 393 | 980 | 391 | 650 | 320 | 27 | 27 | 1460 | 0 |
| | Selenium | mg/kg | 0.5 | 1,800[#1] | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 0.6 | 1.1 | 31 | 3 | 2.2 | 0 |
| | Vanadium | mg/kg | | 5,000[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 15 | 0 |
| | Zinc | mg/kg | 1 | 170,000[#1] | 38.6 | 47.5 | 46.8 | - | 27.9 | 21.8 | 20.4 | 21 | 8.4 | 33.2 | 7.43 | 62 | 21 | 31 | 31 | 93 | 0 |
| | Boron (Water Soluble) | mg/kg | 0.2 | 46,000[#1] | - | - | - | - | - | - | - | - | - | - | - | 0.4 | <0.2 | 7 | 4 | 1.2 | 0 |
| | Chromium (hexavalent) | mg/kg | 0.6 | 250[#2] | <0.6 | <0.6 | <0.6 | - | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <1 | <1 | 31 | 0 | ND | 0 |
| | Chromium (Trivalent) | mg/kg | 0.15 | 33,000[#1] | 5.02 | 9.36 | 11.5 | - | 3.41 | 4.5 | 3.93 | 4.69 | 1.42 | 5.53 | 1.1 | 14 | 5.1 | 31 | 31 | 18 | 0 |
| Inorganics | | | | | | | | | | | | | | | | | | | | | |
| | Sulphur | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Cyanide (Free) | mg/kg | 0.1 | | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | 7 | 0 | ND | 0 |
| | Cyanide Total | mg/kg | 0.1 | | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 0.3 | 0.2 | 31 | 3 | 0.3 | 0 |
| | Fluoride | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 2 | 3 | 0 |
| | Sulphate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Chloride | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Ammoniacal Nitrogen as N | mg/kg | 0.5 | | <12 | <12 | <12 | - | <12 | 14.5 | <12 | 88.2 | <12 | <12 | <12 | 3.5 | 1.6 | 27 | 5 | 88.2 | 0 |
| | Easily Liberated Sulphide (Moisture Corrected) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| | Soluble Sulphate 2:1 extract as SO4 BRE | g/L | 0.01 | | - | - | - | - | - | - | - | - | - | - | - | 0.019 | 0.022 | 3 | 3 | 0.62 | 0 |
| | Sulphate (soluble) | g/L | 0.004 | | <0.004 | <0.02 | <0.004 | - | 0.0681 | <0.004 | 0.0195 | <0.004 | 0.0134 | <0.004 | 0.0042 | - | - | 28 | 13 | 0.0681 | 0 |
| | TDS | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 614 | 0 |
| Other | | | | | | | | | | | | | | | | | | | | | |
| | Dry Matter (DM) content | % w/w | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 83.2 | 0 |
| | Loss on ignition | % | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 5.6 | 0 |
| | ANC at pH 4 | mol/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 14.5 | 0 |
| | ANC pH_6 dry soil | mol/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 0.69 | 0 |
| | Organic Matter | % | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 3 | 0 |
| | Moisture | % | | | 17 | 17 | 16 | 14 | 13 | 17 | 17 | 14 | 16 | 20 | 18 | - | - | 25 | 25 | 25 | 0 |

| | | Units | Method Detection Limit | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location | STP70118 | STP70402 | STP70501 | | | STP70504 | STP70506 | STP70508 | STP70601 | STP70602 | | STP70801 | | | | |
| | | | | | Depth Range (m) | 0.3 | 0.3 | 0.3-0.3 | 0.5-0.5 | 2-2 | 0.3-0.3 | 0.5 | 0.5 | 0.5 | 0.3 | 0.9 | 0.5 | 2.1 | | | | |
| | | | | | Date | 25/09/2020 | 17/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 28/09/2020 | 09/09/2020 | 11/09/2020 | 23/09/2020 | 06/10/2020 | 06/10/2020 | 09/09/2019 | 09/09/2019 | | | | |
| | | | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | | | Lab Report Number | 580778 | 569578 | 575652 | 575652 | 575652 | 575652 | 575650 | 575650 | 574116 | 572605 | 572605 | 19-18545 | 19-18545 | | | | |
| | % Stones >10mm | % w/w | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 2 | 17.9 | 0 |
| | Fraction Organic Carbon | % | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 1.77 | 0 |
| | pH (Lab) | pH_Units | 1 | | | 8.21 | 8.3 | 8.21 | - | 9.04 | 8.56 | 8.35 | 8.62 | 8.81 | 8.23 | 9.07 | - | - | 28 | 28 | 9.2 | 0 |
| | TOC | % | 0.1 | | | 1.78 | 2.02 | 2.06 | 0.891 | <0.2 | 0.714 | 0.608 | 0.414 | <0.2 | 1.82 | <0.2 | 1.5 | 0.2 | 28 | 20 | 4.4 | 0 |
| Asbestos | | | | | | | | | | | | | | | | | | | | | | |
| | Asbestos Identification | None | | | | - | - | - | - | - | - | - | - | - | - | - | Not Detected | Not Detected | 0 | 0 | ND | 0 |
| Field | | | | | | | | | | | | | | | | | | | | | | |
| | pH | pH_Units | 0 | | | - | - | - | - | - | - | - | - | - | - | - | 7.9 | 8.3 | 6 | 6 | 8.68 | 0 |
| | Electrical Conductivity | µS/cm | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 205 | 0 |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
#3:CL:AIRE C4SL 2021
#4: LQM/CIEH S4ULs 2015 for TPH CWG >EC21-EC35 Aromatics as proxy criteria
#5: LQM/CIEH S4ULs 2015 for TPH CWG >EC8-EC10 Aliphatics as proxy criteria
#6: LQM/CIEH S4ULs 2015 for TPH CWG >EC8-EC10 Aromatics as proxy criteria
#7: LQM/CIEH S4ULs 2015 for TPH CWG >EC10-EC12 Aliphatics as proxy criteria
#8: LQM/CIEH S4ULs 2015 for TPH CWG >EC16-EC21 Aromatics as proxy criteria

S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
XXX Exceedance of Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC

| | Units | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_2 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP71702 | R71202 | R71203 | | | R71204 | | R71205 | R71206 | R71301 | | R71302 | R71802 | | R71803 | R71804 | R71805 | R71812 | R71816 | R71817 | SA502 | | SA503A | |
| | | | Depth Range (m) | 0-0.3 | 0.5 | 0-0.1 | 0.3-0.4 | 1-1.1 | 0.2 | 0.5 | 0.5 | 0.2 | 0.1 | 0.5 | 0.1 | 0.2 | 0.5 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0-0.2 | 0.5-0.5 | 0-0 | 0.5-0.5 |
| | | | Date | 01/07/2019 | 11/09/2019 | 18/09/2020 | 18/09/2020 | 18/09/2020 | 11/09/2019 | 11/09/2019 | 17/09/2019 | 17/09/2019 | 19/06/2019 | 28/06/2019 | 19/06/2019 | 05/09/2019 | 05/09/2019 | 11/09/2019 | 03/09/2019 | 02/10/2018 | 27/08/2019 | 20/08/2019 | 04/10/2018 | 09/03/2017 | 09/03/2017 | 14/03/2017 | 14/03/2017 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | 749318-5 | 19-18439 | 576005 | 576005 | 576005 | 19-18439 | 19-18439 | 19-18693 | 19-18693 | 19-11814 | 749318-5 | 19-11814 | 19-17804 | 19-17804 | 19-18439 | 19-17369 | 18/08308 | 19-17130 | 19-16784 | 18/08308 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GRO >C5-C10 | mg/kg | | | - | - | <0.02 | - | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GRO >C5-C12 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C6-C8 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C8-C10 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C10-C12 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C10-C28 | mg/kg | 7,600[#4] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C12-C16 | mg/kg | 10,000[#5] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C16-C21 | mg/kg | 7,600[#4] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C21-C40 | mg/kg | 7,800[#6] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C25-C40 | mg/kg | 7,800[#6] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C10-C40 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C6 Aliphatics | mg/kg | 95,000[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C6-C8 Aliphatics | mg/kg | 150,000[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C8-C10 Aliphatics | mg/kg | 14,000[#1] | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <1 | <0.01 | <0.01 | <1 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C12 Aliphatics | mg/kg | 21,000[#1] | | <1.5 | <1.5 | <1 | - | <1 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1 | <1.5 | <1.5 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| >C12-C16 Aliphatics | mg/kg | 25,000[#1] | | <1.2 | <1.2 | <1 | - | <1 | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | <1 | <1.2 | <1.2 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| >C16-C21 Aliphatics | mg/kg | | | <1.5 | <1.5 | <1 | - | <1 | <1.5 | 1.9 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1 | <1.5 | <1.5 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| >C16-C35 Aliphatics | mg/kg | 450,000[#1] | | <4.9 | <4.9 | 6.68 | - | <2 | <4.9 | 38.9 | <4.9 | <4.9 | <4.9 | <4.9 | <4.9 | <4.9 | <4.9 | <4.9 | <4.9 | 5 | <4.9 | <4.9 | 6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| >C21-C35 Aliphatics | mg/kg | 7,800[#6] | | <3.4 | <3.4 | 5.68 | - | <1 | <3.4 | 37 | <3.4 | <3.4 | <3.4 | <3.4 | <3.4 | <3.4 | <3.4 | <3.4 | <3.4 | 4 | <3.4 | <3.4 | 5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| >C35-C44 Aliphatics | mg/kg | 450,000[#1] | | - | - | <1 | - | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C35 Aliphatics | mg/kg | | | <10 | <10 | - | - | - | <10 | 39 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 4 | <10 | <10 | 5 | - | - | - | - | - |
| >C6-C7 Aromatics | mg/kg | | | <0.01 | <0.01 | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | - | - | - | - | - |
| >C7-C8 Aromatics | mg/kg | 87,000[#1] | | <0.01 | <0.01 | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | - | - | - | - | - |
| >C8 -C10 Aromatics | mg/kg | 7,200[#1] | | <0.01 | <0.01 | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | - | - | - | - | - |
| >EC5-EC7 Aromatics | mg/kg | 76,000[#1] | | - | - | <0.01 | - | <0.01 | - | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >EC7-EC8 Aromatics | mg/kg | 87,000[#1] | | - | - | <0.01 | - | <0.01 | - | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >EC8-EC10 Aromatics | mg/kg | 7,200[#1] | | - | - | <0.01 | - | <0.01 | - | - | - | - | - | - | - | - | - | - | - | <1 | - | - | <1 | - | - | - | - | - |
| >EC8-EC9 Aromatics | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >EC9-EC10 Aromatics | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >EC10-EC12 Aromatics | mg/kg | 9,200[#1] | | <0.9 | <0.9 | <1 | - | <1 | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | <1 | <0.9 | <0.9 | <1 | 1 | <0.1 | <0.1 | <0.1 | <0.1 |
| >EC12-EC16 Aromatics | mg/kg | 10,000[#1] | | <0.5 | <0.5 | <1 | - | <1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | 2.8 | <0.1 | <0.1 | <0.1 | <0.1 |
| >EC16-EC21 Aromatics | mg/kg | 7,600[#1] | | <0.6 | <0.6 | - | - | - | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <1 | <0.6 | <0.6 | <1 | 10.5 | <0.1 | <0.1 | <0.1 | <0.1 |
| >EC21-EC35 Aromatics | mg/kg | 7,800[#1] | | <1.4 | <1.4 | - | - | - | <1.4 | <1.4 | <1.4 | <1.4 | <1.4 | <1.4 | <1.4 | <1.4 | <1.4 | <1.4 | <1.4 | 12 | <1.4 | <1.4 | 16 | 29.9 | <0.1 | <0.1 | <0.1 | <0.1 |
| >EC35-EC44 Aromatics | mg/kg | 7,800[#1] | | - | - | <1 | - | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C35 Aromatics | mg/kg | | | <10 | <10 | - | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 12 | <10 | <10 | 18 | - | - | - | - | - |
| >C5-C35 Aliphatics & Aro | mg/kg | | | <10 | <10 | - | - | - | <10 | 39 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 16 | <10 | <10 | 22 | - | - | - | - | - |
| Gasoline Range Organics | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mineral Oil (C10-C40) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | 146 | <10 | |
| mineral oil | mg/kg | | | - | - | - | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aliphatics | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | |
| Total Aromatics | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 44.2 | <0.1 | <0.1 | <0.1 | |
| Aromatics > EC16-EC21 | mg/kg | 7,600[#1] | | - | - | <1 | - | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aromatics > EC21-EC35 | mg/kg | 7,800[#1] | | - | - | 7.14 | - | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aromatics > EC40-EC44 | mg/kg | | | - | - | <1 | - | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH (Ali & Aro) | mg/kg | | | - | - | 14.9 | - | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 44.2 | <0.1 | <0.1 | <0.1 | |
| Total Aliphatics >C10-C44 | mg/kg | | | - | - | 6.21 | - | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Total Aromatics > EC10-E | mg/kg | | | - | - | 8.68 | - | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| VOC | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| MTBE | mg/kg | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| Chloromethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | |
| Vinyl chloride | mg/kg | 18[#3] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| Bromomethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| Chloroethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| Trichlorofluoromethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| 1,1-dichloroethene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| Dichloromethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 | <0.005 | <0.005 | <0.005 | |
| trans-1,2-dichloroethene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| 1,1-dichloroethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| cis-1,2-dichloroethene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| 2,2-dichloropropane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| Bromochloromethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 | <0.005 | <0.005 | <0.005 | |
| Chloroform | mg/kg | 2,600[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| 1,1,1-trichloroethane | mg/kg | 57,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| 1,1-dichloropropene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| Carbon tetrachloride | mg/kg | 190[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| 1,2-dichloroethane | mg/kg | 21[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 | |
| Benzene | mg/kg | 230[#3] | | <0.01 | <0.01 | <0.009 | <0.009 | <0.009 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| Trichloroethene | mg/kg | 41[#3] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| 1,2-dichloropropane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| Dibromomethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| Bromodichloromethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | |
| cis-1,3-dichloropropene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |
| Toluene | mg/kg | 87,000[#1] | | <0.01 | <0.01 | <0.007 | <0.007 | <0.007 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| trans-1,3-dichloroproper | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 | |

| | | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_2 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP71702 | R71202 | R71203 | | | R71204 | | R71205 | R71206 | R71301 | | R71302 | R71802 | | R71803 | R71804 | R71805 | R71812 | R71816 | R71817 | SA502 | | SA503A | |
| | | | Depth Range (m) | 0-0.3 | 0.5 | 0-0.1 | 0.3-0.4 | 1-1.1 | 0.2 | 0.5 | 0.5 | 0.2 | 0.1 | 0.5 | 0.1 | 0.2 | 0.5 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0-0.2 | 0.5-0.5 | 0-0 | 0.5-0.5 |
| | | | Date | 01/07/2019 | 11/09/2019 | 18/09/2020 | 18/09/2020 | 18/09/2020 | 11/09/2019 | 11/09/2019 | 17/09/2019 | 17/09/2019 | 19/06/2019 | 28/06/2019 | 19/06/2019 | 05/09/2019 | 05/09/2019 | 11/09/2019 | 03/09/2019 | 02/10/2018 | 27/08/2019 | 20/08/2019 | 04/10/2018 | 09/03/2017 | 09/03/2017 | 14/03/2017 | 14/03/2017 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | Units | | Lab Report Number | 749318-5 | 19-18439 | 576005 | 576005 | 576005 | 19-18439 | 19-18439 | 19-18693 | 19-18693 | 19-11814 | 749318-5 | 19-11814 | 19-17804 | 19-17804 | 19-18439 | 19-17369 | 18/08308 | 19-17130 | 19-16784 | 18/08308 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| 1,1,2-trichloroethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| Tetrachloroethene | mg/kg | 1,400[#3] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,3-dichloropropane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| Sum of PCE and TCE | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 |
| Chlorodibromomethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.003 | <0.003 | <0.003 | <0.003 |
| 1,2-dibromoethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| Chlorobenzene | mg/kg | 1,300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,1,1,2-tetrachloroethan | mg/kg | 1,500[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| Ethylbenzene | mg/kg | 17,000[#1] | | <0.01 | <0.01 | <0.004 | <0.004 | <0.004 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 |
| Xylene (m & p) | mg/kg | | | - | - | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Xylene Total | mg/kg | 17,000[#1] | | <0.01 | <0.01 | <0.02 | <0.02 | <0.02 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.02 | <0.01 | <0.01 | <0.01 | <0.02 | <0.02 | <0.02 | <0.02 |
| Xylene (o) | mg/kg | 17,000[#1] | | - | - | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Total BTEX | mg/kg | | | - | - | <0.04 | - | <0.04 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 |
| Styrene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| Bromoform | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| Isopropylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,1,2,2-tetrachloroethan | mg/kg | 1,800[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| Bromobenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2,3-trichloropropane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| n-propylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 2-chlorotoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,3,5-trimethylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 4-chlorotoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| tert-butylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 |
| 1,2,4-trimethylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| sec-butylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| p-isopropyltoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,3-dichlorobenzene | mg/kg | 390[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,4-dichlorobenzene | mg/kg | 36,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| n-butylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2-dichlorobenzene | mg/kg | 24,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2-dibromo-3-chloropro | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 |
| 1,2,4-trichlorobenzene | mg/kg | 1,700[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.003 | <0.003 | <0.003 | <0.003 |
| Hexachlorobutadiene | mg/kg | 48[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| 1,2,3-trichlorobenzene | mg/kg | 770[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.003 | <0.003 | <0.003 | <0.003 |
| 1,2-Dichloroethene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.002 | <0.002 | <0.002 | <0.002 |
| Trihalomethanes | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.015 | <0.015 | <0.015 | <0.015 |
| Carbon disulfide | mg/kg | 1,300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | <0.001 |
| Hexachlorobenzene | mg/kg | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Trichlorobenzene (total) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.006 | <0.006 | <0.006 | <0.006 |
| PAH | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | mg/kg | 1,200[#1] | | <0.03 | <0.03 | <0.009 | - | <0.009 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| Acenaphthylene | mg/kg | 29,000[#1] | | <0.03 | <0.03 | <0.012 | - | <0.012 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.01 | <0.03 | <0.03 | <0.01 | 0.07 | <0.01 | <0.01 | <0.01 |
| Acenaphthene | mg/kg | 29,000[#1] | | <0.03 | <0.03 | <0.008 | - | <0.008 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.01 | <0.03 | <0.03 | <0.01 | 0.07 | <0.01 | <0.01 | <0.01 |
| Fluorene | mg/kg | 20,000[#1] | | <0.03 | <0.03 | <0.01 | - | <0.01 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.01 | <0.03 | <0.03 | <0.01 | 0.06 | <0.01 | <0.01 | <0.01 |
| Phenanthrene | mg/kg | 6,200[#1] | | <0.03 | <0.03 | 0.0378 | - | <0.015 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 1.92 | <0.03 | <0.03 | <0.03 |
| Anthracene | mg/kg | 150,000[#1] | | <0.03 | <0.03 | <0.016 | - | <0.016 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.02 | <0.03 | <0.03 | <0.02 | 0.37 | <0.02 | <0.02 | <0.02 |
| Fluoranthene | mg/kg | 6,300[#1] | | <0.03 | <0.03 | 0.113 | - | <0.017 | <0.03 | <0.03 | <0.03 | <0.03 | 0.04 | <0.03 | <0.07 | <0.03 | 0.04 | <0.03 | <0.08 | 0.06 | <0.03 | <0.08 | 6.75 | <0.08 | <0.08 | <0.08 |
| Pyrene | mg/kg | 15,000[#1] | | <0.03 | <0.03 | 0.098 | - | <0.015 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | 0.03 | <0.03 | <0.07 | 0.05 | <0.03 | <0.07 | 5.76 | <0.07 | <0.07 | <0.07 |
| Benz(a)anthracene | mg/kg | 49[#1] | | <0.03 | <0.03 | 0.0538 | - | <0.014 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.04 | <0.03 | <0.03 | <0.04 | 2.68 | <0.04 | <0.04 | <0.04 |
| Chrysene | mg/kg | 93[#1] | | <0.03 | <0.03 | 0.0599 | - | <0.01 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.06 | <0.03 | <0.03 | <0.06 | 2.51 | <0.06 | 0.09 | <0.06 |
| Benzo(a) pyrene | mg/kg | 21[#2] | | <0.03 | <0.03 | 0.0607 | - | <0.015 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.04 | <0.03 | <0.03 | <0.04 | 3.15 | <0.04 | <0.04 | <0.04 |
| Indeno(1,2,3-c,d)pyrene | mg/kg | 150[#1] | | <0.03 | <0.03 | 0.0545 | - | <0.018 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 2.24 | <0.03 | 0.04 | <0.03 |
| Dibenz(a,h)anthracene | mg/kg | 1.1[#1] | | <0.03 | <0.03 | <0.023 | - | <0.023 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.04 | <0.03 | <0.03 | <0.04 | 0.38 | <0.04 | <0.04 | <0.04 |
| Benzo(g,h,i)perylene | mg/kg | 1,400[#1] | | <0.03 | <0.03 | 0.0503 | - | <0.024 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.05 | <0.03 | <0.03 | <0.05 | 2.09 | <0.05 | <0.05 | <0.05 |
| Benzo(b)fluoranthene | mg/kg | 13[#1] | | <0.03 | <0.03 | 0.0687 | - | <0.015 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.05 | <0.03 | <0.03 | <0.05 | 3.83 | <0.05 | <0.05 | <0.05 |
| Benzo(k)fluoranthene | mg/kg | 370[#1] | | <0.03 | <0.03 | 0.0346 | - | <0.014 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.07 | 1.2 | <0.07 | <0.07 | <0.07 |
| Benzo(b)&(k)fluoranthen | mg/kg | | | <0.06 | <0.06 | 0.1033 | - | <0.029 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.14 | <0.06 | <0.06 | <0.06 | <0.12 | <0.06 | <0.06 | <0.12 | 5.03 | <0.12 | <0.12 | <0.12 |
| PAHs (sum of 4) | mg/kg | | | <0.12 | <0.12 | 0.2081 | - | <0.071 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.28 | <0.12 | <0.12 | <0.12 | <0.2 | <0.12 | <0.12 | <0.2 | 9.36 | <0.2 | 0.21 | <0.2 |
| PAH 16 Total | mg/kg | | | <0.1 | <0.1 | 0.631 | - | <0.118 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.08 | 0.11 | <0.1 | <0.08 | 33.1 | <0.08 | 0.13 | <0.08 |
| PAH 17 Total | mg/kg | | | - | - | - | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 35 | <0.08 | 0.24 | <0.08 |
| benzo(g,h,i)perylene + in | mg/kg | | | <0.06 | <0.06 | 0.1048 | - | <0.042 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.14 | <0.06 | <0.06 | <0.06 | <0.08 | <0.06 | <0.06 | <0.08 | 4.33 | <0.08 | 0.09 | <0.08 |
| Benzo(a)pyrene (surroga | mg/kg | 4.4[#1] | | <0.03 | <0.03 | 0.0607 | - | <0.015 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | <0.03 | <0.04 | <0.03 | <0.03 | <0.04 | 3.15 | <0.04 | <0.04 | <0.04 |
| PAH : Total :- {Polynuclea | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SVOC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coronene | mg/kg | | | - | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-chlorophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 2-methylphenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 2-nitrophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 2,4-dichlorophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 2,4-dimethylphenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 2,4,5-trichlorophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 2,4,6-trichlorophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 4-chloro-3-methylphenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 4-methylphenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 4-nitrophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Pentachlorophenol | mg/kg | 110[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |

| | | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_2 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP71702 | R71202 | R71203 | | | R71204 | | R71205 | R71206 | R71301 | | R71302 | R71802 | | R71803 | R71804 | R71805 | R71812 | R71816 | R71817 | SA502 | | SA503A | |
| | | | Depth Range (m) | 0-0.3 | 0.5 | 0-0.1 | 0.3-0.4 | 1-1.1 | 0.2 | 0.5 | 0.5 | 0.2 | 0.1 | 0.5 | 0.1 | 0.2 | 0.5 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0-0.2 | 0.5-0.5 | 0-0 | 0.5-0.5 |
| | | | Date | 01/07/2019 | 11/09/2019 | 18/09/2020 | 18/09/2020 | 18/09/2020 | 11/09/2019 | 11/09/2019 | 17/09/2019 | 17/09/2019 | 19/06/2019 | 28/06/2019 | 19/06/2019 | 05/09/2019 | 05/09/2019 | 11/09/2019 | 03/09/2019 | 02/10/2018 | 27/08/2019 | 20/08/2019 | 04/10/2018 | 09/03/2017 | 09/03/2017 | 14/03/2017 | 14/03/2017 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | Units | | Lab Report Number | 749318-5 | 19-18439 | 576005 | 576005 | 576005 | 19-18439 | 19-18439 | 19-18693 | 19-18693 | 19-11814 | 749318-5 | 19-11814 | 19-17804 | 19-17804 | 19-18439 | 19-17369 | 18/08308 | 19-17130 | 19-16784 | 18/08308 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| Phenol | mg/kg | 440[#1] | | <0.3 | <0.3 | <0.01 | - | <0.01 | 0.8 | <0.3 | <0.3 | 0.6 | 0.5 | <0.3 | 0.4 | 0.7 | <0.3 | 0.5 | <0.3 | - | 0.3 | 0.5 | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 2-chloronaphthalene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 2-methylnaphthalene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Bis(2-ethylhexyl) phthala | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Butyl benzyl phthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Di-n-butyl phthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Di-n-octyl phthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Diethylphthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Dimethyl phthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Bis(2-chloroethoxy) meth | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Bis(2-chloroethyl)ether | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Carbazole | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | 0.106 | <0.1 | <0.1 |
| Dibenzofuran | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Hexachlorocyclopentadie | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Hexachloroethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Isophorone | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| N-nitrosodi-n-propylamir | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Bis(2-chloroisopropyl) et | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Perylene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.621 | 0.872 | <0.1 | <0.1 |
| Phenols | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.2 |
| Total Phenols | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 | - | - | - | - | - | - | - |
| PCBs | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PCB 118 | mg/kg | | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 28 | mg/kg | | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 52 | mg/kg | | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 101 | mg/kg | | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 138 | mg/kg | | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 153 | mg/kg | | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 180 | mg/kg | | | - | - | - | <0.003 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCBs (Sum of total) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.007 | <0.007 | <0.007 | <0.007 |
| Total PCB 7 Congeners | mg/kg | | | - | - | - | <0.021 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Herbicides and Pesticides | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bolstar | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Endosulphan I & Alpha-cl | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Endosulphan II & 4,4-DDI | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Permethrin I | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Tokuthion | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Quintozene; (PCNB) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Baythroid | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | - | - |
| gamma-HCH | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Symetryn | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Aldrin | mg/kg | 30[#1] | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| a-BHC | mg/kg | 47[#1] | | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| b-BHC | mg/kg | 15[#1] | | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorothalonil | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlordane (cis) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Dieldrin | mg/kg | 30[#1] | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan I | mg/kg | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan II | mg/kg | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Endosulfan sulphate | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| g-BHC (Lindane) | mg/kg | 14[#1] | | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Heptachlor | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Heptachlor epoxide | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Isodrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| o,p''-DDE | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| o,p''-Methoxychlor | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| o,p-DDD | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| 4,4-DDE | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Methoxychlor | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| DDD | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Pendimethalin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | 0.184 | <0.05 |
| Permethrin II | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Tecnazene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Telodrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlordane (trans) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Triadimefon | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Triallate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Trifluralin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Aldrin + Dieldrin | mg/kg | | | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| gamma-Chlordane | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| d-BHC | mg/kg | | | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Endrin aldehyde | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Endrin ketone | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Azinphos Ethyl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Azinophos methyl | mg/kg | | | 0.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbophenothion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |

| | | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_2 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP71702 | R71202 | R71203 | | | R71204 | | R71205 | R71206 | R71301 | | R71302 | R71802 | | R71803 | R71804 | R71805 | R71812 | R71816 | R71817 | SA502 | | SA503A | |
| | | | Depth Range (m) | 0-0.3 | 0.5 | 0-0.1 | 0.3-0.4 | 1-1.1 | 0.2 | 0.5 | 0.5 | 0.2 | 0.1 | 0.5 | 0.1 | 0.2 | 0.5 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0-0.2 | 0.5-0.5 | 0-0 | 0.5-0.5 |
| | | | Date | 01/07/2019 | 11/09/2019 | 18/09/2020 | 18/09/2020 | 18/09/2020 | 11/09/2019 | 11/09/2019 | 17/09/2019 | 17/09/2019 | 19/06/2019 | 28/06/2019 | 19/06/2019 | 05/09/2019 | 05/09/2019 | 11/09/2019 | 03/09/2019 | 02/10/2018 | 27/08/2019 | 20/08/2019 | 04/10/2018 | 09/03/2017 | 09/03/2017 | 14/03/2017 | 14/03/2017 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | Units | | Lab Report Number | 749318-5 | 19-18439 | 576005 | 576005 | 576005 | 19-18439 | 19-18439 | 19-18693 | 19-18693 | 19-11814 | 749318-5 | 19-11814 | 19-17804 | 19-17804 | 19-18439 | 19-17369 | 18/08308 | 19-17130 | 19-16784 | 18/08308 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| Chlorfenvinphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlorpyrifos-methyl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Diazinon | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Dichlorvos | mg/kg | 26[#1] | | 0.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Dimethoate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Parathion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Etrimphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenitrothion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Fenthion | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Malathion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Methyl parathion | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Mevinphos (Phosdrin) | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Phosalone | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Pirimiphos-methyl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Propetamphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Triazophos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Coumaphos | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Demeton-O | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Demeton-S | mg/kg | | | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Disulfoton | mg/kg | | | 0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethoprop | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Fensulfothion | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Merphos | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Naled (Dibrom) | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Phorate | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Ronnel | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Stirophos | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Cyhalothrin/Karate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Cypermethrins(total) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Deltamethrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Fenvalerate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Permethrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Aldrin+Dieldrin+Endrin+I | mg/kg | | | <0.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.3 | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.2 |
| Trichlorinate | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Atrazine | mg/kg | 2,300[#1] | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Simazine | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Chlopyrifos | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Ametryn | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Atraton | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Prometon | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Prometryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Propazine | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Simetryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Terbutryn | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Prometryne | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| p,p-DDT | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| o,p DDT | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Terbutylazine | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 |
| Secbumeton | mg/kg | | | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | - |
| Cyfluthrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 |
| Explosives | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| 2,6-dinitrotoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Nitrobenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 |
| Metals | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | mg/kg | | | <1 | <1 | <0.6 | - | <0.6 | <1 | <1 | <1 | <1 | 1.1 | <1 | <1 | <1 | <1 | <1 | <1 | <5 | <1 | 1.3 | - | <0.01 | <0.01 | <0.01 | <0.01 |
| Arsenic | mg/kg | 170[#3] | | 5.5 | 0.6 | 5.83 | - | 0.659 | 5.6 | 1.1 | 1.7 | 6.1 | 7.9 | 0.8 | 8 | 3.5 | 1.1 | 4.5 | 2.1 | <1 | 5.5 | 8.5 | <1 | 3 | 3 | 3 | <1 |
| Barium | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 82 | - | - | - | 58 | 50 | 102 | 28 |
| Beryllium | mg/kg | 63[#1] | | 0.6 | <0.2 | 0.509 | - | 0.111 | 0.5 | <0.2 | <0.2 | 0.4 | 0.5 | <0.2 | 0.4 | 0.3 | <0.2 | 0.4 | <0.2 | 0.6 | 0.5 | 0.8 | - | <1 | 1 | 1 | <1 |
| Boron | mg/kg | 46,000[#1] | | - | - | 8.73 | - | 2.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cadmium | mg/kg | 880[#2] | | 1 | <0.1 | 0.59 | - | 0.18 | 0.7 | 0.2 | 0.4 | 0.7 | 0.8 | 0.2 | 0.8 | 0.7 | 0.3 | 0.9 | 0.5 | 1 | 0.8 | 0.7 | 1.5 | 0.6 | 0.6 | 1.1 | <0.5 |
| Calcium | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chromium (III+VI) | mg/kg | se either CrIII or CrV | | - | - | 13.8 | - | 2.59 | - | - | - | - | - | - | - | - | - | - | - | 19 | - | - | 16 | 13 | 17 | 34 | 9 |
| Copper | mg/kg | 44,000[#1] | | 16 | 1.1 | 9.74 | - | 1.73 | 12 | 2.6 | 2.6 | 12 | 13 | 1.6 | 15 | 9.9 | 1.5 | 15 | 5.6 | 10 | 13 | 17 | 9 | 8 | 4 | 10 | 2 |
| Iron | mg/kg | | | 13,000 | 830 | 12,200 | - | 2,240 | 12,000 | 2,300 | 2,200 | 12,000 | 16,000 | 760 | 14,000 | 7,200 | 820 | 9,400 | 1,100 | - | 11,000 | 19,000 | - | - | - | - | - |
| Lead | mg/kg | 1,300[#3] | | 18 | 0.7 | 15.2 | - | 1.06 | 17 | 1.8 | 2.6 | 13 | 20 | 1.2 | 18 | 10 | 1.4 | 15 | 4.4 | 16 | 17 | 22 | 16 | 85 | 8 | 21 | 3 |
| Magnesium | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Manganese | mg/kg | | | 950 | 55 | 747 | - | 208 | 740 | 180 | 260 | 700 | 860 | 150 | 780 | 600 | 170 | 770 | 320 | 1,040 | 820 | 1,100 | - | 503 | 476 | 898 | 285 |
| Mercury | mg/kg | 240[#1] | | 0.1 | <0.05 | <0.14 | - | <0.14 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.06 | <0.05 | <0.05 | <0.05 | <0.17 | <0.05 | <0.05 | <0.17 | 0.38 | 0.29 | 0.45 | 1.23 |
| Molybdenum | mg/kg | | | <0.4 | <0.4 | 0.229 | - | <0.1 | 0.4 | <0.4 | <0.4 | <0.4 | 0.5 | <0.4 | 0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <1 | <0.4 | 0.6 | - | <1 | <1 | <1 | <1 |
| Nickel | mg/kg | 800[#1] | | 13 | <1 | 12.6 | - | 3.54 | 12 | 3.1 | 2.6 | 11 | 14 | 2.7 | 13 | 6.7 | 1.4 | 9.4 | 4.4 | 14 | 10 | 16 | 13 | 11 | 14 | 23 | 7 |
| Phosphorus | mg/kg | | | 1,400 | 95 | 1,300 | - | 421 | 1,200 | 390 | 470 | 1,300 | 1,400 | 350 | 1,400 | 980 | 370 | 1,300 | 630 | - | 890 | 890 | - | - | - | - | - |
| Selenium | mg/kg | 1,800[#1] | | <0.5 | 0.7 | <1 | - | <1 | <0.5 | 0.6 | 0.5 | <0.5 | 1.2 | <0.5 | 0.8 | 0.8 | 0.7 | <0.5 | <0.5 | <1 | 0.5 | 0.8 | <1 | <1 | <1 | 2 | <1 |
| Sodium | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Vanadium | mg/kg | 5,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 30 | - | - | - | 19 | 24 | 51 | 12 |

| | | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_2 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP71702 | R71202 | R71203 | | | R71204 | | R71205 | R71206 | R71301 | | R71302 | R71802 | | R71803 | R71804 | R71805 | R71812 | R71816 | R71817 | SA502 | | SA503A | |
| | | | Depth Range (m) | 0-0.3 | 0.5 | 0-0.1 | 0.3-0.4 | 1-1.1 | 0.2 | 0.5 | 0.5 | 0.2 | 0.1 | 0.5 | 0.1 | 0.2 | 0.5 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0-0.2 | 0.5-0.5 | 0-0 | 0.5-0.5 |
| | | | Date | 01/07/2019 | 11/09/2019 | 18/09/2020 | 18/09/2020 | 18/09/2020 | 11/09/2019 | 11/09/2019 | 17/09/2019 | 17/09/2019 | 19/06/2019 | 28/06/2019 | 19/06/2019 | 05/09/2019 | 05/09/2019 | 11/09/2019 | 03/09/2019 | 02/10/2018 | 27/08/2019 | 20/08/2019 | 04/10/2018 | 09/03/2017 | 09/03/2017 | 14/03/2017 | 14/03/2017 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | Units | | Lab Report Number | 749318-5 | 19-18439 | 576005 | 576005 | 576005 | 19-18439 | 19-18439 | 19-18693 | 19-18693 | 19-11814 | 749318-5 | 19-11814 | 19-17804 | 19-17804 | 19-18439 | 19-17369 | 18/08308 | 19-17130 | 19-16784 | 18/08308 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 |
| Zinc | mg/kg | 170.000[#1] | | 70 | 6.9 | 62.8 | - | 18.4 | 61 | 15 | 19 | 64 | 75 | 11 | 77 | 43 | 10 | 61 | 23 | 63 | 46 | 66 | 44 | 53 | 39 | 73 | 17 |
| Boron (Water Soluble) | mg/kg | 46.000[#1] | | 1.3 | <0.2 | - | - | - | 0.6 | <0.2 | 0.3 | 0.7 | 0.9 | <0.2 | 1.1 | 0.6 | <0.2 | 0.5 | 0.4 | 1.6 | 0.7 | 0.8 | - | 1 | 1 | 2.3 | <1 |
| Chromium (hexavalent) | mg/kg | 250[#3] | | <1 | <1 | <0.6 | - | <0.6 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 |
| Chromium (Trivalent) | mg/kg | 33.000[#1] | | 19 | 0.86 | 13.8 | - | 2.59 | 15 | 2.8 | 2.8 | 14 | 18 | 1.2 | 17 | 9.6 | 1.2 | 13 | 7.3 | 19 | 15 | 23 | - | 13 | 17 | 34 | 9 |
| Inorganics | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sulphur | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 674 | - | - | - | 7 | <5 | <5 | <5 |
| Cyanide (Free) | mg/kg | | | <0.1 | <0.1 | - | - | - | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 | <0.1 | <1 | <0.1 | 0.2 | - | <1 | <1 | <1 | <1 |
| Cyanide Total | mg/kg | | | <0.1 | 0.1 | <1 | - | <1 | 0.4 | <0.1 | <0.1 | 0.2 | 0.1 | <0.1 | 0.2 | 0.2 | <0.1 | 0.5 | 0.1 | <1 | <0.1 | 0.2 | - | <1 | <1 | <1 | <1 |
| Fluoride | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 4 | 4 | 3 |
| Sulphate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | <10 | <10 |
| Chloride | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | 11 | <10 |
| Ortho Phosphate as PO4 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | - | - | - | - | - | - | - |
| Sulphide | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <5 | - | - | - | - | - | - | - |
| Ammoniacal Nitrogen as | mg/kg | | | 3.3 | 0.98 | <12 | - | <12 | 4.1 | <0.5 | 5.8 | 5 | 8.5 | 2.4 | 11 | 1.1 | 2.9 | 5.3 | 1.8 | - | 3.3 | 2.8 | - | - | - | - | - |
| Easily Liberated Sulphide | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <15 | <15 | 26 | <15 |
| Soluble Sulphate 2:1 extr | g/L | | | 0.021 | 0.015 | - | - | - | 0.015 | <0.01 | 0.012 | 0.018 | 0.015 | 0.029 | 0.021 | 0.052 | <0.01 | 0.024 | 0.025 | - | 0.052 | 0.05 | - | - | - | - | - |
| Sulphate (soluble) | g/L | | | - | - | 0.0362 | - | 0.0069 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 |
| TDS | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 622 | 424 | 844 | 460 |
| Other | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dry Matter (DM) content | % w/w | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 80.5 | 84.8 | 75.9 | 80.5 |
| Loss on ignition | % | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.4 | 2.6 | 12.8 | 2.8 |
| ANC at pH 4 | mol/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.75 | 4.79 | 0.89 | 9.23 |
| ANC pH_6 dry soil | mol/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.24 | 0.18 | 0.14 | 0.41 |
| Organic Matter | % | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.3 | - | - | 6 | 3.3 | 1.2 | 6.2 | 0.3 |
| Moisture | % | | | - | - | 11 | 11 | 7.8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| % Stones >10mm | % w/w | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | - | - | 26 | 6.1 | 16 | 2.7 | 5.7 |
| Fraction Organic Carbon | % | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.9 | 0.69 | 3.61 | 0.14 |
| pH (Lab) | pH_Units | | | - | - | 7.99 | - | 8.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.28 | 8.24 | 7.9 | 8.51 |
| TOC | % | | | 4.3 | 0.3 | 2.29 | 0.432 | <0.2 | 2.3 | 0.2 | 0.5 | 2.4 | 2.3 | 0.1 | 3 | 2.5 | 0.2 | 3.6 | 1.3 | 4.2 | 3.2 | 3.6 | - | - | - | - | - |
| Asbestos | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asbestos Identification | None | | | - | - | - | - | - | - | - | - | - | Not Detected | - | Not Detected | - | - | - | - | Not Detected | - | - | - | Not Detected | Not Detected | Not Detected | Not Detected |
| Biological | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Coliforms | CFU/G | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 100 | - | - | - | - | - | - | - |
| Field | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | pH_Units | | | - | 8.2 | - | - | - | 8.1 | 8.5 | 8.2 | 8 | - | - | - | 8.1 | 8.5 | 7.9 | 8.2 | 7.9 | 7.9 | 8.3 | 7.76 | 7.55 | 7.59 | 7.88 | 7.63 |
| Electrical Conductivity | µS/cm | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 215 | 156 | 245 | 153 |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
#3:CL:AIRE C4SL 2021
#4: LQM/CIEH S4ULs 2015 for TPH CWG >EC16-EC21 Aromatics as proxy criteria
#5: LQM/CIEH S4ULs 2015 for TPH CWG >EC12-EC16 Aromatics as proxy criteria
#6: LQM/CIEH S4ULs 2015 for TPH CWG >EC21-EC35 Aromatics as proxy criteria
#7: LQM/CIEH S4ULs 2015 for TPH CWG >EC16-EC21 Aromatics as proxy criteria

S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria
available
ND: Non-detect
- : Not analysed

**Key**
XXX Exceedance of Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC

| | Units | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | STP71401 | STP71403 | STP71602 | STP71604 | STP72902 | STP72903 | TP1_LRI | TP2_LRI | TP4_LRI | TP-A | | | TP-B | | | TP-C | | | WS71502 | | | | |
| | | | Depth Range (m) | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | 0.3 | 0.3 | 0.2 | 0.15-0.2 | 0.6-0.7 | 1.1-1.1 | 0.3 | 0.5 | 1 | 0.3 | 0.6 | 1.1 | 0.3 | 0.5 | | | | |
| | | | Date | 05/09/2019 | 05/09/2019 | 13/09/2019 | 17/09/2019 | 24/06/2019 | 24/06/2019 | 28/01/2010 | 28/01/2010 | 28/01/2010 | 04/11/2020 | 04/11/2020 | 04/11/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 16/09/2019 | 16/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-17804 | 19-17804 | 19-18652 | 19-18693 | 755463-3 | 755463-3 | GIR_2010 | GIR_2010 | GIR_2010 | 577289 | 577289 | 577289 | 577342 | 577342 | 577342 | 577342 | 577342 | 577342 | 19-18693 | 19-18693 | | | | |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GRO >C5-C10 | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | <0.02 | - | - | 5 | 0 | ND | 0 |
| GRO >C5-C12 | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| EPH >C6-C8 | mg/kg | | - | - | - | - | - | - | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| EPH >C8-C10 | mg/kg | | - | - | - | - | - | - | <10 | - | <10 | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| EPH >C10-C12 | mg/kg | | - | - | - | - | - | - | <10 | - | <10 | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| EPH >C10-C28 | mg/kg | 7,600[#4] | - | - | - | - | - | - | - | 37 | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 37 | 0 |
| EPH >C12-C16 | mg/kg | 10,000[#5] | - | - | - | - | - | - | <10 | - | 11 | - | - | - | - | - | - | - | - | - | - | - | 2 | 1 | 11 | 0 |
| EPH >C16-C21 | mg/kg | 7,600[#4] | - | - | - | - | - | - | 21 | - | 80 | - | - | - | - | - | - | - | - | - | - | - | 2 | 2 | 80 | 0 |
| EPH >C21-C40 | mg/kg | 7,800[#6] | - | - | - | - | - | - | 31 | - | 130 | - | - | - | - | - | - | - | - | - | - | - | 2 | 2 | 130 | 0 |
| EPH >C25-C40 | mg/kg | 7,800[#6] | - | - | - | - | - | - | - | 15 | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 15 | 0 |
| EPH >C10-C40 | mg/kg | | - | - | - | - | - | - | - | - | - | 106 | <35 | <35 | <35 | <35 | <35 | <35 | <35 | <35 | - | - | 9 | 1 | 106 | 0 |
| >C5-C6 Aliphatics | mg/kg | 95,000[#1] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 31 | 0 | ND | 0 |
| >C6-C8 Aliphatics | mg/kg | 150,000[#1] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 31 | 0 | ND | 0 |
| >C8-C10 Aliphatics | mg/kg | 14,000[#1] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 31 | 0 | ND | 0 |
| >C10-C12 Aliphatics | mg/kg | 21,000[#1] | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | - | - | - | - | - | - | - | - | - | - | - | - | <1.5 | <1.5 | 31 | 0 | ND | 0 |
| >C12-C16 Aliphatics | mg/kg | 25,000[#1] | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | - | - | - | - | - | - | - | - | - | - | - | - | <1.2 | <1.2 | 31 | 0 | ND | 0 |
| >C16-C21 Aliphatics | mg/kg | | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | - | - | - | - | - | - | - | - | - | - | - | - | <1.5 | <1.5 | 31 | 1 | 1.9 | 0 |
| >C16-C35 Aliphatics | mg/kg | 450,000[#1] | <4.9 | <4.9 | <4.9 | <4.9 | <4.9 | <4.9 | - | - | - | - | - | - | - | - | - | - | - | - | <4.9 | <4.9 | 31 | 4 | 38.9 | 0 |
| >C21-C35 Aliphatics | mg/kg | 7,800[#6] | <3.4 | <3.4 | <3.4 | <3.4 | <3.4 | <3.4 | - | - | - | - | - | - | - | - | - | - | - | - | <3.4 | <3.4 | 31 | 4 | 37 | 0 |
| >C35-C44 Aliphatics | mg/kg | 450,000[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| >C5-C35 Aliphatics | mg/kg | | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | 25 | 3 | 39 | 0 |
| >C6-C7 Aromatics | mg/kg | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| >C7-C8 Aromatics | mg/kg | 87,000[#1] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| >C8 -C10 Aromatics | mg/kg | 7,200[#1] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | mg/kg | 76,000[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | mg/kg | 87,000[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | mg/kg | 7,200[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | mg/kg | 9,200[#1] | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | - | - | - | - | - | - | - | - | - | - | - | - | <0.9 | <0.9 | 31 | 1 | 1 | 0 |
| >EC12-EC16 Aromatics | mg/kg | 10,000[#1] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | - | - | - | - | - | - | - | - | - | - | - | <0.5 | <0.5 | 31 | 1 | 2.8 | 0 |
| >EC16-EC21 Aromatics | mg/kg | 7,600[#1] | <0.6 | <0.6 | <0.6 | <0.6 | 4.6 | 4.5 | - | - | - | - | - | - | - | - | - | - | - | - | <0.6 | <0.6 | 29 | 3 | 10.5 | 0 |
| >EC21-EC35 Aromatics | mg/kg | 7,800[#1] | <1.4 | <1.4 | <1.4 | <1.4 | 23 | 20 | - | - | - | - | - | - | - | - | - | - | - | - | <1.4 | <1.4 | 29 | 5 | 29.9 | 0 |
| >EC35-EC44 Aromatics | mg/kg | 7,800[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| >C5-C35 Aromatics | mg/kg | | <10 | <10 | <10 | <10 | 28 | 24 | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | 25 | 4 | 28 | 0 |
| >C5-C35 Aliphatics & Aro | mg/kg | | <10 | <10 | <10 | <10 | 28 | 24 | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | 25 | 5 | 39 | 0 |
| Gasoline Range Organics | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| Mineral Oil (C10-C40) | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 1 | 146 | 0 |
| mineral oil | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Total Aliphatics | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Total Aromatics | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 1 | 44.2 | 0 |
| Aromatics > EC16-EC21 | mg/kg | 7,600[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Aromatics > EC21-EC35 | mg/kg | 7,800[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 1 | 7.14 | 0 |
| Aromatics > EC40-EC44 | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| TPH (Ali & Aro) | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 2 | 44.2 | 0 |
| Total Aliphatics >C10-C44 | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 1 | 6.21 | 0 |
| Total Aromatics > EC10-E | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 1 | 8.68 | 0 |
| VOC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| MTBE | mg/kg | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 41 | 0 | ND | 0 |
| Chloromethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Vinyl chloride | mg/kg | 18[#3] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Bromomethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Chloroethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Trichlorofluoromethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,1-dichloroethene | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Dichloromethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| trans-1,2-dichloroethene | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,1-dichloroethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| cis-1,2-dichloroethene | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2,2-dichloropropane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Bromochloromethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Chloroform | mg/kg | 2,600[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,1,1-trichloroethane | mg/kg | 57,000[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,1-dichloropropene | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Carbon tetrachloride | mg/kg | 190[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2-dichloroethane | mg/kg | 21[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Benzene | mg/kg | 230[#3] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.01 | <0.01 | 41 | 0 | ND | 0 |
| Trichloroethene | mg/kg | 41[#3] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2-dichloropropane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Dibromomethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Bromodichloromethane | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| cis-1,3-dichloropropene | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Toluene | mg/kg | 87,000[#1] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.01 | <0.01 | 41 | 0 | ND | 0 |
| trans-1,3-dichloroproper | mg/kg | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |

| | | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | STP71401 | STP71403 | STP71602 | STP71604 | STP72902 | STP72903 | TP1_LRI | TP2_LRI | TP4_LRI | TP-A | | | TP-B | | | TP-C | | | WS71502 | | | | |
| | | | Depth Range (m) | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | 0.3 | 0.3 | 0.2 | 0.15-0.2 | 0.6-0.7 | 1.1-1.1 | 0.3 | 0.5 | 1 | 0.3 | 0.6 | 1.1 | 0.3 | 0.5 | | | | |
| | | | Date | 05/09/2019 | 05/09/2019 | 13/09/2019 | 17/09/2019 | 24/06/2019 | 24/06/2019 | 28/01/2010 | 28/01/2010 | 28/01/2010 | 04/11/2020 | 04/11/2020 | 04/11/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 16/09/2019 | 16/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | Units | | Lab Report Number | 19-17804 | 19-17804 | 19-18652 | 19-18693 | 755463-3 | 755463-3 | GIR_2010 | GIR_2010 | GIR_2010 | 577289 | 577289 | 577289 | 577342 | 577342 | 577342 | 577342 | 577342 | 577342 | 19-18693 | 19-18693 | | | | |
| 1,1,2-trichloroethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Tetrachloroethene | mg/kg | 1.400[#3] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,3-dichloropropane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Sum of PCE and TCE | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Chlorodibromomethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2-dibromoethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Chlorobenzene | mg/kg | 1,300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethan | mg/kg | 1,500[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Ethylbenzene | mg/kg | 17,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.01 | <0.01 | 39 | 0 | ND | 0 |
| Xylene (m & p) | mg/kg | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | 18 | 0 | ND | 0 |
| Xylene Total | mg/kg | 17,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.01 | <0.01 | 41 | 0 | ND | 0 |
| Xylene (o) | mg/kg | 17,000[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | 18 | 0 | ND | 0 |
| Total BTEX | mg/kg | | | - | - | - | - | - | - | - | - | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - | - | 15 | 0 | ND | 0 |
| Styrene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Bromoform | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Isopropylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethan | mg/kg | 1,800[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Bromobenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2,3-trichloropropane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| n-propylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2-chlorotoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 4-chlorotoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| tert-butylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| sec-butylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| p-isopropyltoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,3-dichlorobenzene | mg/kg | 390[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,4-dichlorobenzene | mg/kg | 36,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| n-butylbenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2-dichlorobenzene | mg/kg | 24,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropro | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | mg/kg | 1,700[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Hexachlorobutadiene | mg/kg | 48[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | mg/kg | 770[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 1,2-Dichloroethene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Trihalomethanes | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Carbon disulfide | mg/kg | 1,300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Hexachlorobenzene | mg/kg | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Trichlorobenzene (total) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | mg/kg | 1,200[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.02 | 0.04 | 0.14 | 0.0134 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.03 | <0.03 | 43 | 4 | 0.14 | 0 |
| Acenaphthylene | mg/kg | 29,000[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 0.05 | 0.05 | 0.06 | 0.05 | 0.18 | 0.0911 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | 0.0465 | <0.012 | <0.012 | <0.03 | <0.03 | 43 | 9 | 0.18 | 0 |
| Acenaphthene | mg/kg | 29,000[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 0.04 | <0.03 | 0.04 | 0.11 | 0.34 | 0.033 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | 0.0102 | <0.008 | <0.008 | <0.03 | <0.03 | 43 | 7 | 0.34 | 0 |
| Fluorene | mg/kg | 20,000[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.02 | 0.09 | 0.29 | 0.029 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.03 | <0.03 | 43 | 5 | 0.29 | 0 |
| Phenanthrene | mg/kg | 6,200[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 0.8 | 0.69 | 1.01 | 1.84 | 6.04 | 0.684 | <0.015 | <0.015 | 0.0791 | 0.0261 | 0.0611 | 0.247 | <0.015 | <0.015 | <0.03 | <0.03 | 43 | 12 | 6.04 | 0 |
| Anthracene | mg/kg | 150,000[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 0.19 | 0.15 | 0.2 | 0.26 | 0.97 | 0.18 | <0.016 | <0.016 | 0.0249 | <0.016 | <0.016 | 0.0725 | <0.016 | <0.016 | <0.03 | <0.03 | 43 | 9 | 0.97 | 0 |
| Fluoranthene | mg/kg | 6,300[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 3 | 2.6 | 3.53 | 3.59 | 15.3 | 2.45 | <0.017 | 0.0508 | 0.394 | 0.111 | 0.106 | 0.823 | 0.0473 | 0.025 | <0.03 | <0.03 | 43 | 18 | 15.3 | 0 |
| Pyrene | mg/kg | 15,000[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 2.9 | 2.5 | 2.9 | 3.1 | 13.4 | 2.14 | <0.015 | 0.0463 | 0.38 | 0.104 | 0.089 | 0.721 | 0.0422 | 0.0224 | <0.03 | <0.03 | 43 | 17 | 13.4 | 0 |
| Benz(a)anthracene | mg/kg | 49[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 1.6 | 1.5 | 2.27 | 2.18 | 8.43 | 1.2 | <0.014 | 0.028 | 0.208 | 0.0582 | 0.0509 | 0.435 | 0.028 | 0.018 | <0.03 | <0.03 | 43 | 15 | 8.43 | 0 |
| Chrysene | mg/kg | 93[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 1.5 | 1.4 | 2.85 | 3.35 | 11.3 | 1.19 | <0.01 | 0.029 | 0.237 | 0.0553 | 0.0419 | 0.438 | 0.0302 | 0.0176 | <0.03 | <0.03 | 43 | 16 | 11.3 | 0 |
| Benzo(a) pyrene | mg/kg | 21[#2] | | <0.03 | <0.03 | <0.03 | <0.03 | 1.8 | 1.5 | 2.71 | 2.47 | 8.85 | 1.45 | <0.015 | 0.0316 | 0.302 | 0.0769 | 0.0405 | 0.489 | 0.0279 | <0.015 | <0.03 | <0.03 | 43 | 14 | 8.85 | 0 |
| Indeno(1,2,3-c,d)pyrene | mg/kg | 150[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 0.63 | 0.52 | 1.06 | 1.8 | 3.71 | 1.27 | <0.018 | 0.0291 | 0.286 | 0.0631 | 0.0292 | 0.41 | 0.0336 | <0.018 | <0.03 | <0.03 | 43 | 15 | 3.71 | 0 |
| Dibenz(a,h)anthracene | mg/kg | 1.1[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 0.15 | 0.14 | 0.35 | 0.25 | 0.48 | 0.109 | <0.023 | <0.023 | 0.0336 | <0.023 | <0.023 | 0.0426 | <0.023 | <0.023 | <0.03 | <0.03 | 43 | 9 | 0.48 | 0 |
| Benzo(g,h,i)perylene | mg/kg | 1,400[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 0.79 | 0.74 | 2.69 | 2.72 | 8.32 | 1.14 | <0.024 | <0.024 | 0.291 | 0.0753 | 0.028 | 0.369 | <0.024 | <0.024 | <0.03 | <0.03 | 43 | 12 | 8.32 | 0 |
| Benzo(b)fluoranthene | mg/kg | 13[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 2.2 | 2.1 | 1.01 | 1.65 | 5.34 | 2.09 | <0.015 | 0.0494 | 0.446 | 0.112 | 0.0601 | 0.747 | 0.0438 | 0.0287 | <0.03 | <0.03 | 43 | 15 | 5.34 | 0 |
| Benzo(k)fluoranthene | mg/kg | 370[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 0.96 | 1 | 1.56 | 1.35 | 3.32 | 0.791 | <0.014 | <0.014 | 0.186 | 0.0417 | 0.0216 | 0.285 | <0.014 | <0.014 | <0.03 | <0.03 | 43 | 12 | 3.32 | 0 |
| Benzo(b)&(k)fluoranthen | mg/kg | | | <0.06 | <0.06 | <0.06 | <0.06 | 3.16 | 3.1 | 2.57 | 3 | 8.66 | 2.881 | <0.029 | 0.0634 | 0.632 | 0.1537 | 0.0817 | 1.032 | 0.0578 | 0.0427 | <0.06 | <0.06 | 43 | 15 | 8.66 | 0 |
| PAHs (sum of 4) | mg/kg | | | <0.12 | <0.12 | <0.12 | <0.12 | 4.58 | 4.36 | 6.32 | 7.52 | 20.69 | 5.291 | <0.071 | 0.1165 | 1.209 | 0.2921 | 0.1389 | 1.811 | 0.1154 | 0.0847 | <0.12 | <0.12 | 43 | 16 | 20.69 | 0 |
| PAH 16 Total | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | 17 | 15 | - | - | - | 14.9 | <0.118 | 0.264 | 2.89 | 0.723 | 0.528 | 5.14 | 0.253 | <0.118 | <0.1 | <0.1 | 40 | 13 | 33.1 | 0 |
| PAH 17 Total | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 2 | 35 | 0 |
| benzo(g,h,i)perylene + in | mg/kg | | | <0.06 | <0.06 | <0.06 | <0.06 | 1.42 | 1.26 | 3.75 | 4.52 | 12.03 | 2.41 | <0.042 | 0.0531 | 0.577 | 0.1384 | 0.0572 | 0.779 | 0.0576 | <0.042 | <0.06 | <0.06 | 43 | 15 | 12.03 | 0 |
| Benzo(a)pyrene (surroga | mg/kg | 4.4[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | 1.8 | 1.5 | 2.71 | 2.47 | **8.85** | 1.45 | <0.015 | 0.0316 | 0.302 | 0.0769 | 0.0405 | 0.489 | 0.0279 | <0.015 | <0.03 | <0.03 | 43 | 14 | 8.85 | 1 |
| PAH : Total :- {Polynuclea | mg/kg | | | - | - | - | - | - | - | 22.3 | 24.8 | 86.5 | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 86.5 | 0 |
| SVOC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coronene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| 2-chlorophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2-methylphenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2-nitrophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2,4-dichlorophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2,4-dimethylphenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 4-methylphenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 4-nitrophenol | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Pentachlorophenol | mg/kg | 110[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |

| | Units | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | STP71401 | STP71403 | STP71602 | STP71604 | STP72902 | STP72903 | TP1_LRI | TP2_LRI | TP4_LRI | TP-A | | | TP-B | | | TP-C | | | WS71502 | | | | |
| | | | Depth Range (m) | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | 0.3 | 0.3 | 0.2 | 0.15-0.2 | 0.6-0.7 | 1.1-1.1 | 0.3 | 0.5 | 1 | 0.3 | 0.6 | 1.1 | 0.3 | 0.5 | | | | |
| | | | Date | 05/09/2019 | 05/09/2019 | 13/09/2019 | 17/09/2019 | 24/06/2019 | 24/06/2019 | 28/01/2010 | 28/01/2010 | 28/01/2010 | 04/11/2020 | 04/11/2020 | 04/11/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 16/09/2019 | 16/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-17804 | 19-17804 | 19-18652 | 19-18693 | 755463-3 | 755463-3 | GIR_2010 | GIR_2010 | GIR_2010 | 577289 | 577289 | 577289 | 577342 | 577342 | 577342 | 577342 | 577342 | 577342 | 19-18693 | 19-18693 | | | | |
| Phenol | mg/kg | 440[#1] | | 0.3 | 0.4 | <0.3 | 0.7 | 1 | 1.8 | - | - | - | - | - | - | - | - | - | - | - | - | <0.3 | <0.3 | 29 | 13 | 1.8 | 0 |
| 2-chloronaphthalene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2-methylnaphthalene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthala | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Butyl benzyl phthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Di-n-butyl phthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Di-n-octyl phthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Diethylphthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Dimethyl phthalate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Bis(2-chloroethoxy) meth | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Carbazole | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 1 | 0.106 | 0 |
| Dibenzofuran | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Hexachlorocyclopentadie | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Hexachloroethane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Isophorone | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| N-nitrosodi-n-propylamir | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Bis(2-chloroisopropyl) et | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Perylene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 2 | 0.872 | 0 |
| Phenols | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Total Phenols | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCBs | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PCB 118 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 28 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 52 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 101 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 138 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 153 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 180 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCBs (Sum of total) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Total PCB 7 Congeners | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Herbicides and Pesticides | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bolstar | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Endosulphan I & Alpha-cl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Endosulphan II & 4,4-DDI | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Permethrin I | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Tokuthion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Quintozene; (PCNB) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Baythroid | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| gamma-HCH | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Symetryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Aldrin | mg/kg | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| a-BHC | mg/kg | 47[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 1 | 0.2 | 0 |
| b-BHC | mg/kg | 15[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 1 | 0.2 | 0 |
| Chlorothalonil | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Chlordane (cis) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Dieldrin | mg/kg | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Endosulfan I | mg/kg | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Endosulfan II | mg/kg | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Endosulfan sulphate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Endrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| g-BHC (Lindane) | mg/kg | 14[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 1 | 0.3 | 0 |
| Heptachlor | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Heptachlor epoxide | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Isodrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| o,p''-DDE | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| o,p''-Methoxychlor | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| o,p-DDD | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 4,4-DDE | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Methoxychlor | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| DDD | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Pendimethalin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 1 | 0.184 | 0 |
| Permethrin II | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Tecnazene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Telodrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Chlordane (trans) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Triadimefon | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Triallate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Trifluralin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Aldrin + Dieldrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| gamma-Chlordane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| d-BHC | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 1 | 0.3 | 0 |
| Endrin aldehyde | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Endrin ketone | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Azinphos Ethyl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Azinophos methyl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 1 | 0.4 | 0 |
| Carbophenothion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |

| | Units | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | STP71401 | STP71403 | STP71602 | STP71604 | STP72902 | STP72903 | TP1_LRI | TP2_LRI | TP4_LRI | TP-A | | | TP-B | | | TP-C | | | WS71502 | | | | |
| | | | Depth Range (m) | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | 0.3 | 0.3 | 0.2 | 0.15-0.2 | 0.6-0.7 | 1.1-1.1 | 0.3 | 0.5 | 1 | 0.3 | 0.6 | 1.1 | 0.3 | 0.5 | | | | |
| | | | Date | 05/09/2019 | 05/09/2019 | 13/09/2019 | 17/09/2019 | 24/06/2019 | 24/06/2019 | 28/01/2010 | 28/01/2010 | 28/01/2010 | 04/11/2020 | 04/11/2020 | 04/11/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 16/09/2019 | 16/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-17804 | 19-17804 | 19-18652 | 19-18693 | 755463-3 | 755463-3 | GIR_2010 | GIR_2010 | GIR_2010 | 577289 | 577289 | 577289 | 577342 | 577342 | 577342 | 577342 | 577342 | 577342 | 19-18693 | 19-18693 | | | | |
| Chlorfenvinphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Chlorpyrifos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Chlorpyrifos-methyl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Diazinon | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Dichlorvos | mg/kg | 26[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 1 | 0.7 | 0 |
| Dimethoate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Ethion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Parathion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Etrimphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Fenitrothion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Fenthion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Malathion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Methyl parathion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Phosalone | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Pirimiphos-methyl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Propetamphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Triazophos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Coumaphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Demeton-O | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Demeton-S | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 1 | 0.3 | 0 |
| Disulfoton | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 1 | 0.3 | 0 |
| Ethoprop | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Fensulfothion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Merphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Naled (Dibrom) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Phorate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Ronnel | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Stirophos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Cyhalothrin/Karate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Cypermethrins(total) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Deltamethrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Fenvalerate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Permethrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Aldrin+Dieldrin+Endrin+I | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Trichlorinate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Atrazine | mg/kg | 2,300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Simazine | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Chlopyrifos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Ametryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Atraton | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Prometon | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Prometryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Propazine | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Simetryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Terbutryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Prometryne | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| p,p-DDT | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| o,p DDT | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Terbutylazine | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| Secbumeton | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Cyfluthrin | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| 2,6-dinitrotoluene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Nitrobenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | mg/kg | | | <1 | 1.1 | <1 | <1 | 1.1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | <1 | <1 | 30 | 4 | 1.3 | 0 |
| Arsenic | mg/kg | 170[#3] | | 9.3 | 9.7 | 6.8 | 6.4 | 5.5 | 6 | 5 | 5 | 4 | 2.12 | <0.6 | <0.6 | 3.3 | 1.86 | <0.6 | 1.93 | <0.6 | <0.6 | 1.6 | 1.1 | 43 | 35 | 9.7 | 0 |
| Barium | mg/kg | | | - | - | - | - | - | - | - | - | - | 34.8 | 7.3 | 8.13 | 45.5 | 23.3 | 10.4 | 30.6 | 11 | 10.1 | - | - | 14 | 14 | 102 | 0 |
| Beryllium | mg/kg | 63[#1] | | 0.7 | 0.8 | 0.5 | 0.4 | 0.5 | 0.5 | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 | <0.2 | 30 | 20 | 1 | 0 |
| Boron | mg/kg | 46,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 2 | 8.73 | 0 |
| Cadmium | mg/kg | 880[#2] | | 0.6 | 0.6 | 0.5 | 0.7 | 0.8 | 0.8 | 0.5 | 0.7 | <0.5 | 0.511 | 0.223 | 0.248 | 0.507 | 0.316 | 0.242 | 0.335 | 0.206 | 0.186 | 0.4 | 0.3 | 43 | 40 | 1.5 | 0 |
| Calcium | mg/kg | | | - | - | - | - | - | - | - | - | - | 359,000 | 357,000 | 419,000 | 257,000 | 299,000 | 330,000 | 404,000 | 450,000 | 223,000 | - | - | 9 | 9 | 450000 | 0 |
| Chromium (III+VI) | mg/kg | se either CrIII or CrV | | - | - | - | - | - | - | 12 | 20 | 10 | 4.71 | <0.9 | <0.9 | 8.18 | 3.89 | 1.09 | 5.04 | 1.42 | 1.61 | - | - | 20 | 18 | 34 | 0 |
| Copper | mg/kg | 44,000[#1] | | 15 | 13 | 11 | 11 | 13 | 11 | 13 | 10 | 9 | 3.91 | <1.4 | <1.4 | 2.68 | 2.05 | <1.4 | 2.59 | <1.4 | <1.4 | 2.1 | 1.8 | 43 | 38 | 17 | 0 |
| Iron | mg/kg | | | 20,000 | 19,000 | 14,000 | 14,000 | 11,000 | 11,000 | - | - | - | 3,400 | <1,000 | <1,000 | 7,250 | 4,110 | <1,000 | 5,100 | <1,000 | <1,000 | 780 | 640 | 34 | 29 | 20000 | 0 |
| Lead | mg/kg | 1,300[#3] | | 17 | 20 | 13 | 12 | 25 | 22 | 25 | 30 | 42 | 9.42 | <0.7 | <0.7 | 5.63 | 1.68 | <0.7 | 4.06 | <0.7 | 1.6 | 1.5 | 1.4 | 43 | 39 | 85 | 0 |
| Magnesium | mg/kg | | | - | - | - | - | - | - | - | - | - | 1,240 | 800 | 760 | 1,620 | 1,340 | 919 | 1,330 | 849 | 838 | - | - | 9 | 9 | 1620 | 0 |
| Manganese | mg/kg | | | 850 | 880 | 700 | 630 | 720 | 770 | - | - | - | 362 | 166 | 167 | 469 | 271 | 177 | 363 | 212 | 202 | 190 | 190 | 39 | 39 | 1100 | 0 |
| Mercury | mg/kg | 240[#1] | | <0.05 | <0.05 | <0.05 | <0.05 | 0.07 | 0.06 | 0.8 | 0.66 | 0.71 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.05 | <0.05 | 43 | 11 | 1.23 | 0 |
| Molybdenum | mg/kg | | | 0.6 | 0.5 | 0.4 | 0.5 | 0.5 | <0.4 | - | - | - | 0.152 | 0.105 | 0.133 | 0.211 | 0.135 | 0.104 | 0.141 | <0.1 | <0.1 | <0.4 | <0.4 | 39 | 17 | 0.6 | 0 |
| Nickel | mg/kg | 800[#1] | | 19 | 17 | 12 | 11 | 10 | 10 | 9 | 12 | 8 | 4.03 | 0.787 | 0.994 | 8.59 | 5.72 | 2.32 | 5.95 | 1.72 | 1.79 | 2.7 | 2.3 | 43 | 42 | 23 | 0 |
| Phosphorus | mg/kg | | | 910 | 980 | 1,000 | 1,200 | 790 | 810 | - | - | - | 631 | 489 | 343 | 567 | 453 | 351 | 593 | 451 | 339 | 290 | 320 | 34 | 34 | 1400 | 0 |
| Selenium | mg/kg | 1,800[#1] | | 0.5 | <0.5 | <0.5 | 1.9 | 0.7 | <0.5 | 1 | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 0.9 | 0.7 | 43 | 17 | 2 | 0 |
| Sodium | mg/kg | | | - | - | - | - | - | - | - | - | - | 170 | 187 | 160 | 151 | 173 | 194 | 166 | 184 | 180 | - | - | 9 | 9 | 194 | 0 |
| Vanadium | mg/kg | 5,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 5 | 51 | 0 |

| | Units | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | TP-A | | | TP-B | | | TP-C | | | WS71502 | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | STP71401 | STP71403 | STP71602 | STP71604 | STP72902 | STP72903 | TP1_LRI | TP2_LRI | TP4_LRI | | | | | | | | | | | | | | |
| | | | Depth Range (m) | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | 0.3 | 0.3 | 0.2 | 0.15-0.2 | 0.6-0.7 | 1.1-1.1 | 0.3 | 0.5 | 1 | 0.3 | 0.6 | 1.1 | 0.3 | 0.5 | | | | |
| | | | Date | 05/09/2019 | 05/09/2019 | 13/09/2019 | 17/09/2019 | 24/06/2019 | 24/06/2019 | 28/01/2010 | 28/01/2010 | 28/01/2010 | 04/11/2020 | 04/11/2020 | 04/11/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 29/10/2020 | 16/09/2019 | 16/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-17804 | 19-17804 | 19-18652 | 19-18693 | 755463-3 | 755463-3 | GIR_2010 | GIR_2010 | GIR_2010 | 577289 | 577289 | 577289 | 577342 | 577342 | 577342 | 577342 | 577342 | 577342 | 19-18693 | 19-18693 | | | | |
| Zinc | mg/kg | 170.000[#1] | | 67 | 78 | 56 | 62 | 74 | 75 | 61 | 86 | 66 | 34.5 | 9.6 | 11.1 | 31.4 | 20 | 14.2 | 26.8 | 11.8 | 12.5 | 21 | 72 | 43 | 43 | 86 | 0 |
| Boron (Water Soluble) | mg/kg | 46.000[#1] | | 0.4 | 0.5 | 0.5 | 0.7 | 0.9 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 | <0.2 | 28 | 21 | 2.3 | 0 |
| Chromium (hexavalent) | mg/kg | 250[#3] | | <1 | <1 | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | <1 | <1 | 30 | 0 | ND | 0 |
| Chromium (Trivalent) | mg/kg | 33.000[#1] | | 24 | 26 | 16 | 12 | 13 | 13 | - | - | - | - | - | - | - | - | - | - | - | - | 1.1 | 0.92 | 30 | 30 | 34 | 0 |
| Inorganics | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sulphur | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 2 | 674 | 0 |
| Cyanide (Free) | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | 28 | 3 | 0.2 | 0 |
| Cyanide Total | mg/kg | | | 0.1 | 0.1 | 0.2 | 0.3 | 0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | 30 | 14 | 0.5 | 0 |
| Fluoride | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 4 | 0 |
| Sulphate | mg/kg | | | - | - | - | - | - | - | 0.02 | 0.04 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | 7 | 2 | 0.04 | 0 |
| Chloride | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 1 | 11 | 0 |
| Ortho Phosphate as PO4 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Sulphide | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Ammoniacal Nitrogen as | mg/kg | | | 2.4 | 1.2 | 4.3 | 3.4 | 5 | 3.8 | - | - | - | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | 4.9 | 5.2 | 34 | 22 | 11 | 0 |
| Easily Liberated Sulphide | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 1 | 26 | 0 |
| Soluble Sulphate 2:1 extr | g/L | | | 0.015 | 0.016 | 0.014 | 0.014 | 0.064 | 0.024 | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 23 | 19 | 0.064 | 0 |
| Sulphate (soluble) | g/L | | | - | - | - | - | - | - | - | - | - | <0.004 | 0.007 | 0.0062 | <0.004 | 0.01 | 0.0072 | <0.004 | <0.004 | 0.0089 | - | - | 15 | 7 | 0.0362 | 0 |
| TDS | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 844 | 0 |
| Other | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dry Matter (DM) content | % w/w | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 84.8 | 0 |
| Loss on ignition | % | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 12.8 | 0 |
| ANC at pH 4 | mol/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 9.23 | 0 |
| ANC pH_6 dry soil | mol/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 0.41 | 0 |
| Organic Matter | % | | | - | - | - | - | - | - | - | 10 | - | - | - | - | - | - | - | - | - | - | - | - | 7 | 7 | 10 | 0 |
| Moisture | % | | | - | - | - | - | - | - | - | - | - | 22 | 22 | 21 | 14 | 12 | 14 | 18 | 21 | 21 | - | - | 12 | 12 | 22 | 0 |
| % Stones >10mm | % w/w | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 6 | 26 | 0 |
| Fraction Organic Carbon | % | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 3.61 | 0 |
| pH (Lab) | pH_Units | | | - | - | - | - | - | - | - | - | - | 8.54 | 9.16 | 9.2 | 8.47 | 8.76 | 9.07 | 8.61 | 8.95 | 9.1 | - | - | 15 | 15 | 9.2 | 0 |
| TOC | % | | | 2 | 2.4 | 1.9 | 1.9 | 3 | 3.1 | 5.42 | - | 4.48 | 0.867 | <0.2 | <0.2 | 0.693 | 0.205 | <0.2 | 0.583 | <0.2 | <0.2 | 0.2 | 0.2 | 38 | 32 | 5.42 | 0 |
| Asbestos | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asbestos Identification | None | | | - | - | - | - | - | Not Detected | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 0 | ND | 0 |
| Biological | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Coliforms | CFU/G | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 100 | 0 |
| Field | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | pH_Units | | | 7.8 | 7.9 | 8 | 8.1 | - | - | 8.5 | 8.3 | 8.1 | - | - | - | - | - | - | - | - | - | 8.6 | 8.6 | 26 | 26 | 8.6 | 0 |
| Electrical Conductivity | µS/cm | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 4 | 245 | 0 |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
#3:CL:AIRE C4SL 2021
#4: LQM/CIEH S4ULs 2015 for TPH CWG >EC16-EC21 Aromatics as proxy criteria
#5: LQM/CIEH S4ULs 2015 for TPH CWG >EC12-EC16 Aromatics as proxy criteria
#6: LQM/CIEH S4ULs 2015 for TPH CWG >EC21-EC35 Aromatics as proxy criteria
#7: LQM/CIEH S4ULs 2015 for TPH CWG >EC16-EC21 Aromatics as proxy criteria

S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria
available
ND: Non-detect
- : Not analysed

**Key**
XXX Exceedance of Human Health, Public Open Space-Park, Sandy Loam,

| | Units | Human Health, Public Open Space-Park | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | | | P505 | | P510 | R503B | | R506A | | R71819 | | R71821 | R71901 | | R71902 | | | R71903 | | | R71904 | |
| | | | Depth Range (m) | 0-0.1 | 0.7-0.9 | 3.2-3.2 | 0.15-0.15 | 0.5-0.5 | 0.5-0.5 | 0-0.1 | 6.2-6.2 | 0.2-0.5 | 0.5-1 | 0.2 | 0.6-0.8 | 0.4 | 0.1 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 |
| | | | Date | 14/03/2017 | 14/03/2017 | 15/03/2017 | 05/01/2017 | 05/01/2017 | 13/12/2016 | 24/02/2017 | 17/03/2017 | 13/02/2017 | 13/02/2017 | 19/08/2019 | 19/08/2019 | 02/10/2018 | 07/06/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2016 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 19-16758 | 19-16758 | 18/08308 | 744940-1 | 744940-1 | 744940-1 | 755463-3 | 749318-5 | 744940-1 | 757612-2 | 749318-5 | 744940-1 | 757612-2 |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GRO >C5-C10 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C6 Aliphatics | mg/kg | 95.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| >C6-C8 Aliphatics | mg/kg | 150.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| >C8-C10 Aliphatics | mg/kg | 14.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <1 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| >C10-C12 Aliphatics | mg/kg | 21.000[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1.5 | <1.5 | <1 | <1.5 | <1.5 | <1.5 | - | <1.5 | <1.5 | - | <1.5 | <1.5 | - |
| >C12-C16 Aliphatics | mg/kg | 25.000[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1.2 | <1.2 | <1 | <1.2 | <1.2 | <1.2 | - | <1.2 | <1.2 | - | <1.2 | <1.2 | - |
| >C16-C21 Aliphatics | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1.5 | <1.5 | <1 | <1.5 | <1.5 | <1.5 | - | <1.5 | <1.5 | - | <1.5 | <1.5 | - |
| >C16-C35 Aliphatics | mg/kg | 450.000[#1] | | <0.2 | <0.2 | 50.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <4.9 | <4.9 | 4 | <4.9 | <4.9 | <4.9 | - | <4.9 | <4.9 | - | <4.9 | <4.9 | - |
| >C21-C35 Aliphatics | mg/kg | 7.800[#4] | | <0.1 | <0.1 | 50.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <3.4 | <3.4 | 3 | <3.4 | <3.4 | <3.4 | - | <3.4 | <3.4 | - | <3.4 | <3.4 | - |
| >C35-C44 Aliphatics | mg/kg | 450.000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C35 Aliphatics | mg/kg | | | - | - | - | - | - | - | - | - | - | - | <10 | <10 | 3 | <10 | <10 | <10 | - | <10 | <10 | - | <10 | <10 | - |
| >C6-C7 Aromatics | mg/kg | | | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| >C7-C8 Aromatics | mg/kg | 87.000[#1] | | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| >C8 -C10 Aromatics | mg/kg | 7.200[#1] | | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| >EC5-EC7 Aromatics | mg/kg | 76.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | - | - | - | - | - | - |
| >EC7-EC8 Aromatics | mg/kg | 87.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | - | - | - | - | - | - |
| >EC8-EC10 Aromatics | mg/kg | 7.200[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | <1 | - | - | - | - | - | - | - | - | - | - |
| >EC8-EC9 Aromatics | mg/kg | 7.200[#5] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC9-EC10 Aromatics | mg/kg | 7.200[#5] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC10-EC12 Aromatics | mg/kg | 9.200[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.9 | <0.9 | <1 | <0.9 | <0.9 | <0.9 | - | <0.9 | <0.9 | - | <0.9 | <0.9 | - |
| >EC12-EC16 Aromatics | mg/kg | 10.000[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | - | <0.5 | <0.5 | - |
| >EC16-EC21 Aromatics | mg/kg | 7.600[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.6 | <0.6 | <1 | <0.6 | <0.6 | <0.6 | - | <0.6 | <0.6 | - | <0.6 | <0.6 | - |
| >EC21-EC35 Aromatics | mg/kg | 7.800[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1.4 | <1.4 | 8 | <1.4 | <1.4 | <1.4 | - | <1.4 | <1.4 | - | <1.4 | <1.4 | - |
| >EC35-EC44 Aromatics | mg/kg | 7.800[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C35 Aromatics | mg/kg | | | - | - | - | - | - | - | - | - | - | - | <10 | <10 | 8 | <10 | <10 | <10 | - | <10 | <10 | - | <10 | <10 | - |
| >C5-C35 Aliphatics & Arom | mg/kg | | | - | - | - | - | - | - | - | - | - | - | <10 | <10 | 10 | <10 | <10 | <10 | - | <10 | <10 | - | <10 | <10 | - |
| Mineral Oil (C10-C40) | mg/kg | | | - | 108 | - | <10 | - | 18 | 17 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| mineral oil | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aliphatics | mg/kg | | | <0.1 | <0.1 | 50.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aromatics | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aromatics > EC16-EC21 | mg/kg | 7.600[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aromatics > EC21-EC35 | mg/kg | 7.800[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aromatics > EC40-EC44 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH (Ali & Aro) | mg/kg | | | <0.1 | <0.1 | 50.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aliphatics >C10-C44 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aromatics > EC10-EC4 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| VOC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MTBE | mg/kg | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| Chloromethane | mg/kg | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Vinyl chloride | mg/kg | 18[#3] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Bromomethane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chloroethane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorofluoromethane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1-dichloroethene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Dichloromethane | mg/kg | | | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | - | <0.005 | <0.005 | <0.005 | <0.005 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| trans-1,2-dichloroethene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,1-dichloroethane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| cis-1,2-dichloroethene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 2,2-dichloropropane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Bromochloromethane | mg/kg | | | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | - | <0.005 | <0.005 | <0.005 | <0.005 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Chloroform | mg/kg | 2.600[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,1,1-trichloroethane | mg/kg | 57.000[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,1-dichloropropene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Carbon tetrachloride | mg/kg | 190[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2-dichloroethane | mg/kg | 21[#1] | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.002 | <0.002 | <0.002 | <0.002 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Benzene | mg/kg | 230[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| Trichloroethene | mg/kg | 41[#3] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2-dichloropropane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Dibromomethane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Bromodichloromethane | mg/kg | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| cis-1,3-dichloropropene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Toluene | mg/kg | 87.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| trans-1,3-dichloropropene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,1,2-trichloroethane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Tetrachloroethene | mg/kg | 1.400[#3] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,3-dichloropropane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Sum of PCE and TCE | mg/kg | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.002 | <0.002 | <0.002 | <0.002 | - | - | - | - | - | - | - | - | <0.02 | - | - | - | - |
| Chlorodibromomethane | mg/kg | | | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | - | <0.003 | <0.003 | <0.003 | <0.003 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2-dibromoethane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Chlorobenzene | mg/kg | 1.300[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,1,1,2-tetrachloroethane | mg/kg | 1.500[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Ethylbenzene | mg/kg | 17.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| Xylene (m & p) | mg/kg | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - |
| Xylene Total | mg/kg | 17.000[#1] | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.01 | <0.01 | <0.02 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | - |
| Xylene (o) | mg/kg | 17.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | - | <0.01 | - | - | - | - |

| | | Human Health, Public Open Space-Park | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | | | P505 | | P510 | R503B | | R506A | | R71819 | | R71821 | R71901 | | R71902 | | | R71903 | | | R71904 | | |
| | | | Depth Range (m) | 0-0.1 | 0.7-0.9 | 3.2-3.2 | 0.15-0.15 | 0.5-0.5 | 0.5-0.5 | 0-0.1 | 6.2-6.2 | 0.2-0.5 | 0.5-1 | 0.2 | 0.6-0.8 | 0.4 | 0.1 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 |
| | | | Date | 14/03/2017 | 14/03/2017 | 15/03/2017 | 05/01/2017 | 05/01/2017 | 13/12/2016 | 24/02/2017 | 17/03/2017 | 13/02/2017 | 13/02/2017 | 19/08/2019 | 19/08/2019 | 02/10/2018 | 07/06/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | Units | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2016 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 19-16758 | 19-16758 | 18/08308 | 744940-1 | 744940-1 | 744940-1 | 755463-3 | 749318-5 | 744940-1 | 757612-2 | 749318-5 | 744940-1 | 757612-2 |
| Total BTEX | mg/kg | | | - | <0.01 | - | <0.01 | - | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Styrene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Bromoform | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Isopropylbenzene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,1,2,2-tetrachloroethane | mg/kg | 1.800[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromobenzene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2,3-trichloropropane | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| n-propylbenzene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 2-chlorotoluene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,3,5-trimethylbenzene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 4-chlorotoluene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| tert-butylbenzene | mg/kg | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.002 | <0.002 | <0.002 | <0.002 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2,4-trimethylbenzene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| sec-butylbenzene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| p-isopropyltoluene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,3-dichlorobenzene | mg/kg | 390[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,4-dichlorobenzene | mg/kg | 36.000[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| n-butylbenzene | mg/kg | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2-dichlorobenzene | mg/kg | 24.000[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2-dibromo-3-chloropropa | mg/kg | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.002 | <0.002 | <0.002 | <0.002 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2,4-trichlorobenzene | mg/kg | 1.700[#1] | | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | - | <0.003 | <0.003 | <0.003 | <0.003 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| Hexachlorobutadiene | mg/kg | 48[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2,3-trichlorobenzene | mg/kg | 770[#1] | | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | - | <0.003 | <0.003 | <0.003 | <0.003 | - | - | - | - | - | - | - | - | <0.01 | - | - | - | - |
| 1,2-Dichloroethene | mg/kg | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.002 | <0.002 | <0.002 | <0.002 | - | - | - | - | - | - | - | - | <0.02 | - | - | - | - |
| Trihalomethanes | mg/kg | | | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | <0.015 | - | - | - | - | - | - | - | - | <0.04 | - | - | - | - |
| VOC TICs | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbon disulfide | mg/kg | 1.300[#1] | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.001 | <0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorobenzene | mg/kg | 30[#1] | | <0.05 | <0.05 | <0.1 | <0.1 | <0.1 | <0.05 | <0.05 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tert Amyl Methyl Ether | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorobenzene (total) | mg/kg | | | <0.006 | <0.006 | <0.006 | <0.006 | <0.006 | - | <0.006 | <0.006 | <0.006 | <0.006 | - | - | - | - | - | - | - | - | <0.02 | - | - | - | - |
| PAH | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | mg/kg | 1,200[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | - | <0.03 | <0.03 | - |
| Acenaphthylene | mg/kg | 29.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.03 | <0.03 | <0.01 | <0.03 | <0.03 | 0.04 | - | <0.03 | <0.03 | - | <0.03 | <0.03 | - |
| Acenaphthene | mg/kg | 29.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.03 | <0.03 | <0.01 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | - | <0.03 | <0.03 | - |
| Fluorene | mg/kg | 20.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.03 | <0.03 | <0.01 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | - | <0.03 | <0.03 | - |
| Phenanthrene | mg/kg | 6.200[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.03 | <0.03 | <0.03 | 0.22 | - | <0.03 | 0.59 | - | <0.03 | 0.15 | - |
| Anthracene | mg/kg | 150.000[#1] | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.03 | <0.03 | <0.02 | <0.03 | <0.03 | 0.12 | - | <0.03 | 0.11 | - | <0.03 | <0.03 | - |
| Fluoranthene | mg/kg | 6.300[#1] | | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.03 | <0.03 | 0.09 | 0.05 | <0.03 | 0.59 | - | <0.03 | 0.99 | - | <0.03 | 0.34 | - |
| Pyrene | mg/kg | 15.000[#1] | | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.03 | <0.03 | <0.07 | 0.04 | <0.03 | 0.55 | - | <0.03 | 0.92 | - | <0.03 | 0.32 | - |
| Benz(a)anthracene | mg/kg | 49[#1] | | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.03 | <0.03 | <0.04 | <0.03 | <0.03 | 0.24 | - | <0.03 | 0.38 | - | <0.03 | 0.13 | - |
| Chrysene | mg/kg | 93[#1] | | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | <0.03 | <0.03 | <0.06 | <0.03 | <0.03 | 0.37 | - | <0.03 | 0.51 | - | <0.03 | 0.21 | - |
| Benzo(a) pyrene | mg/kg | 21[#2] | | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.03 | <0.03 | 0.04 | <0.03 | <0.03 | 0.3 | - | <0.03 | 0.43 | - | <0.03 | 0.15 | - |
| Indeno(1,2,3-c,d)pyrene | mg/kg | 150[#1] | | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.03 | <0.03 | <0.03 | 0.15 | - | <0.03 | 0.19 | - | <0.03 | 0.09 | - |
| Dibenz(a,h)anthracene | mg/kg | 1.1[#1] | | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.03 | <0.03 | <0.04 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | - | <0.03 | <0.03 | - |
| Benzo(g,h,i)perylene | mg/kg | 1,400[#1] | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.03 | <0.03 | <0.05 | <0.03 | <0.03 | 0.18 | - | <0.03 | 0.23 | - | <0.03 | 0.09 | - |
| Benzo(b)fluoranthene | mg/kg | 13[#1] | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.03 | <0.03 | 0.05 | <0.03 | <0.03 | 0.19 | - | <0.03 | 0.23 | - | <0.03 | 0.24 | - |
| Benzo(k)fluoranthene | mg/kg | 370[#1] | | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | <0.03 | <0.03 | <0.07 | <0.03 | <0.03 | 0.18 | - | <0.03 | 0.22 | - | <0.03 | 0.09 | - |
| Benzo(b)&(k)fluoranthene | mg/kg | | | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | <0.06 | <0.06 | 0.12 | <0.06 | <0.06 | 0.37 | - | <0.06 | 0.45 | - | <0.06 | 0.33 | - |
| PAHs (sum of 4) | mg/kg | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.12 | <0.12 | 0.2 | <0.12 | <0.12 | 0.7 | - | <0.12 | 0.87 | - | <0.12 | 0.51 | - |
| PAH 16 Total | mg/kg | | | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.1 | <0.1 | 0.24 | <0.1 | <0.1 | 3.1 | - | <0.1 | 4.8 | - | <0.1 | 1.8 | - |
| PAH 17 Total | mg/kg | | | - | <0.08 | - | <0.08 | - | <0.08 | <0.08 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| benzo(g,h,i)perylene + inde | mg/kg | | | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | <0.06 | <0.06 | 0.08 | <0.06 | <0.06 | 0.33 | - | <0.06 | 0.42 | - | <0.06 | 0.18 | - |
| Benzo(a)pyrene (surrogate | mg/kg | 4.4[#1] | | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.03 | <0.03 | 0.04 | <0.03 | <0.03 | 0.3 | - | <0.03 | 0.43 | - | <0.03 | 0.15 | - |
| SVOC | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC TICs | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Coronene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-chlorophenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-methylphenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-nitrophenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4-dichlorophenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4-dimethylphenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4,5-trichlorophenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4,6-trichlorophenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chloro-3-methylphenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-methylphenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-nitrophenol | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pentachlorophenol | mg/kg | 110[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phenol | mg/kg | 440[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.3 | <0.3 | - | 1.5 | 0.4 | 0.9 | - | 1 | 0.8 | - | <0.3 | <0.3 | - |
| 2-chloronaphthalene | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-methylnaphthalene | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-ethylhexyl) phthalate | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Butyl benzyl phthalate | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Di-n-butyl phthalate | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Di-n-octyl phthalate | mg/kg | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | - | <0.1 | <0.5 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diethylphthalate | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dimethyl phthalate | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-nitroaniline | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Units | Human Health, Public Open Space-Park | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | | | P505 | | P510 | R503B | | R506A | | R71819 | | R71821 | R71901 | | R71902 | | | R71903 | | | R71904 | |
| | | | Depth Range (m) | 0-0.1 | 0.7-0.9 | 3.2-3.2 | 0.15-0.15 | 0.5-0.5 | 0.5-0.5 | 0-0.1 | 6.2-6.2 | 0.2-0.5 | 0.5-1 | 0.2 | 0.6-0.8 | 0.4 | 0.1 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 |
| | | | Date | 14/03/2017 | 14/03/2017 | 15/03/2017 | 05/01/2017 | 05/01/2017 | 13/12/2016 | 24/02/2017 | 17/03/2017 | 13/02/2017 | 13/02/2017 | 19/08/2019 | 19/08/2019 | 02/10/2018 | 07/06/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2016 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 19-16758 | 19-16758 | 18/08308 | 744940-1 | 744940-1 | 744940-1 | 755463-3 | 749318-5 | 744940-1 | 757612-2 | 749318-5 | 744940-1 | 757612-2 |
| 3-nitroaniline | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-bromophenyl phenyl ethe | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chloroaniline | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chlorophenyl phenyl ethe | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-nitroaniline | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Azobenzene | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroethoxy) methar | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroethyl)ether | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbazole | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dibenzofuran | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorocyclopentadiene | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachloroethane | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Isophorone | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| N-nitrosodi-n-propylamine | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroisopropyl) ethe | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Perylene | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroisopropyl)ether | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phenols | mg/kg | | | <0.2 | <0.2 | <0.2 | 6.9 | 0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Phenols | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - |
| PCBs | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PCB 118 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 28 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 52 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 101 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 138 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 153 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 180 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCBs (Sum of total) | mg/kg | | | - | <0.007 | - | <0.007 | - | <0.007 | <0.007 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total PCB 7 Congeners | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Herbicides and Pesticides | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bolstar | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Endosulphan I & Alpha-chlo | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Endosulphan II & 4,4-DDD | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Permethrin I | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tokuthion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Quintozene; (PCNB) | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Baythroid | mg/kg | | | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| gamma-HCH | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Symetryn | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Aldrin | mg/kg | 30[#1] | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| a-BHC | mg/kg | 47[#1] | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| b-BHC | mg/kg | 15[#1] | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Chlorothalonil | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlordane (cis) | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dieldrin | mg/kg | 30[#1] | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Endosulfan I | mg/kg | 2,400[#1] | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Endosulfan II | mg/kg | 2,400[#1] | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Endosulfan sulphate | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Endrin | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| g-BHC (Lindane) | mg/kg | 14[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Heptachlor | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Heptachlor epoxide | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Isodrin | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p''-DDE | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p''-Methoxychlor | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p-DDD | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4,4-DDE | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| DDT | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Methoxychlor | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| DDD | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pendimethalin | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Permethrin II | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tecnazene | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Telodrin | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlordane (trans) | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Triadimefon | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Triallate | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trifluralin | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aldrin + Dieldrin | mg/kg | | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | <0.2 | - | - | - | - | - | - | - | <0.2 | - |
| gamma-Chlordane | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| d-BHC | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Endrin aldehyde | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Endrin ketone | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Azinphos Ethyl | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Azinophos methyl | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Carbophenothion | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorfenvinphos | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Units | Human Health, Public Open Space-Park | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | | | P505 | | P510 | R503B | | R506A | | R71819 | | R71821 | R71901 | | R71902 | | | R71903 | | | R71904 | |
| | | | Depth Range (m) | 0-0.1 | 0.7-0.9 | 3.2-3.2 | 0.15-0.15 | 0.5-0.5 | 0.5-0.5 | 0-0.1 | 6.2-6.2 | 0.2-0.5 | 0.5-1 | 0.2 | 0.6-0.8 | 0.4 | 0.1 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 |
| | | | Date | 14/03/2017 | 14/03/2017 | 15/03/2017 | 05/01/2017 | 05/01/2017 | 13/12/2016 | 24/02/2017 | 17/03/2017 | 13/02/2017 | 13/02/2017 | 19/08/2019 | 19/08/2019 | 02/10/2018 | 07/06/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2016 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 19-16758 | 19-16758 | 18/08308 | 744940-1 | 744940-1 | 744940-1 | 755463-3 | 749318-5 | 744940-1 | 757612-2 | 749318-5 | 744940-1 | 757612-2 |
| Chlorpyrifos | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorpyrifos-methyl | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diazinon | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Dichlorvos | mg/kg | 26[#1] | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Dimethoate | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ethion | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Parathion | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Etrimphos | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fenitrothion | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fenthion | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Malathion | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Methyl parathion | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Mevinphos (Phosdrin) | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Phosalone | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pirimiphos-methyl | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Propetamphos | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Triazophos | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Coumaphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Demeton-O | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Demeton-S | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Disulfoton | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Ethoprop | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Fensulfothion | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Merphos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Naled (Dibrom) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Phorate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Ronnel | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Stirophos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Cyhalothrin/Karate | mg/kg | | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cypermethrins(total) | mg/kg | | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Deltamethrin | mg/kg | | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fenvalerate | mg/kg | | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Permethrin | mg/kg | | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aldrin+Dieldrin+Endrin+Iso | mg/kg | | | <0.2 | <0.2 | - | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | - | - | - | <0.3 | - | - | - | - | - | - | - | <0.3 | - |
| Trichlorinate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Atrazine | mg/kg | 2.300[#1] | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Simazine | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Chlopyrifos | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Ametryn | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Atraton | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Prometon | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Prometryn | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Propazine | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Simetryn | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Terbutryn | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Prometryne | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| p,p-DDT | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| o,p DDT | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Terbutylazine | mg/kg | | | <0.05 | <0.05 | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Secbumeton | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | - | - | - | - | <0.1 | - |
| Cyfluthrin | mg/kg | | | <0.1 | <0.1 | - | - | - | - | <0.1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Explosives | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (TNT) | mg/kg | 260[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.5 | - | - | <0.5 | - | - | <0.5 |
| 2,4,6-trinitrophenyl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | <0.1 | - | - | <0.1 |
| 2,4-Dinitrotoluene | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <1 | - | - | <1 | - | - | <1 |
| 2,6-dinitrotoluene | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <1 | - | - | <1 | - | - | <1 |
| Nitrobenzene | mg/kg | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| HMX | mg/kg | 23,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <1 | - | - | <1 | - | - | <1 |
| Ethylene glycol dinitrate | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | <0.1 | - | - | <0.1 |
| Nitrocellulose (12% N) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <5,000 | - | - | <5,000 | - | - | <5,000 |
| Nitroglycerine | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | <0.1 | - | - | <0.1 |
| Nitroguanidine | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | <0.1 | - | - | <0.1 |
| PETN | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <5 | - | - | <5 | - | - | <5 |
| RDX | mg/kg | 49,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <1 | - | - | <1 | - | - | <1 |
| Tetryl | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <1,000 | - | - | <1,000 | - | - | <1,000 |
| Hexanitrostilbene (HNS) | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.5 | - | - | <0.5 | - | - | <0.5 |
| Metals | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | mg/kg | | | - | <0.01 | - | <0.01 | - | <5 | <0.01 | - | - | - | <1 | <1 | <5 | 1.3 | <1 | <1 | - | <1 | 1.4 | - | <1 | <1 | - |
| Arsenic | mg/kg | 170[#2] | | 1 | <1 | <1 | 3 | <1 | <1 | 3 | <1 | <1 | 2 | 4.7 | 0.6 | <1 | 7.2 | 2.7 | 4.3 | - | 0.7 | 4.8 | - | 1.3 | 2.1 | - |
| Barium | mg/kg | | | 52 | 11 | 8 | 73 | 18 | 15 | 56 | 12 | 18 | 12 | - | - | 41 | - | - | - | - | - | - | - | - | - | - |
| Beryllium | mg/kg | 63[#1] | | 1 | <1 | <1 | 1 | <1 | <1 | 1 | <1 | <1 | <1 | 0.4 | <0.2 | <0.5 | 0.7 | <0.2 | 0.3 | - | <0.2 | 0.4 | - | <0.2 | <0.2 | - |
| Boron | mg/kg | 46,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cadmium | mg/kg | 880[#2] | | 1.1 | <0.5 | <0.5 | 1.6 | 0.5 | <0.5 | 1 | <0.5 | 0.7 | 0.7 | 0.9 | 0.2 | 0.6 | 0.9 | 0.4 | 0.7 | - | 0.3 | 0.8 | - | 0.5 | 0.6 | - |
| Chromium (III+VI) | mg/kg | ther CrIII or | | 19 | 2 | 2 | 23 | 4 | 4 | 15 | 2 | 5 | 2 | - | - | 11 | - | - | - | - | - | - | - | - | - | - |
| Copper | mg/kg | 44,000[#1] | | 9 | 1 | 2 | 7 | 1 | 2 | 8 | 1 | 1 | <1 | 12 | 1.8 | 6 | 14 | 3.8 | 14 | - | 2 | 9.9 | - | 2.6 | 3.9 | - |
| Iron | mg/kg | | | - | - | - | - | - | - | - | - | - | - | 10,000 | 1,100 | - | 17,000 | 5,500 | 6,600 | - | 810 | 8,500 | - | 2,400 | 3,100 | - |
| Lead | mg/kg | 1,300[#2] | | 16 | 2 | 1 | 15 | 3 | 2 | 20 | <1 | 6 | 2 | 32 | 1.3 | 15 | 23 | 6.2 | 34 | - | 2.3 | 220 | - | 3.7 | 85 | - |

| | Units | Human Health, Public Open Space-Park | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | | | P505 | | P510 | R503B | | R506A | | R71819 | | R71821 | R71901 | | R71902 | | | R71903 | | | R71904 | |
| | | | Depth Range (m) | 0-0.1 | 0.7-0.9 | 3.2-3.2 | 0.15-0.15 | 0.5-0.5 | 0.5-0.5 | 0-0.1 | 6.2-6.2 | 0.2-0.5 | 0.5-1 | 0.2 | 0.6-0.8 | 0.4 | 0.1 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 | 0.5 | 0.1 | 0.4 |
| | | | Date | 14/03/2017 | 14/03/2017 | 15/03/2017 | 05/01/2017 | 05/01/2017 | 13/12/2016 | 24/02/2017 | 17/03/2017 | 13/02/2017 | 13/02/2017 | 19/08/2019 | 19/08/2019 | 02/10/2018 | 07/06/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 | 07/06/2019 | 07/06/2019 | 05/07/2019 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2016 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 19-16758 | 19-16758 | 18/08308 | 744940-1 | 744940-1 | 744940-1 | 755463-3 | 749318-5 | 744940-1 | 757612-2 | 749318-5 | 744940-1 | 757612-2 |
| Manganese | mg/kg | | | 800 | 215 | 166 | 864 | 280 | 244 | 683 | 282 | 364 | 269 | 720 | 210 | 523 | 1,000 | 320 | 580 | - | 210 | 760 | - | 310 | 390 | - |
| Mercury | mg/kg | 240[#1] | | 0.38 | 1.17 | 0.93 | <0.17 | 0.39 | 0.74 | 0.61 | 1.06 | <0.17 | 0.67 | <0.05 | <0.05 | <0.17 | <0.05 | <0.05 | <0.05 | - | <0.05 | <0.05 | - | <0.05 | <0.05 | - |
| Molybdenum | mg/kg | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.4 | <0.4 | <1 | 0.5 | <0.4 | 0.4 | - | <0.4 | <0.4 | - | <0.4 | <0.4 | - |
| Nickel | mg/kg | 800[#1] | | 10 | 3 | 3 | 22 | 5 | 3 | 10 | 2 | 5 | 6 | 7.5 | 1.2 | 8 | 16 | 6.9 | 7.3 | - | 2.1 | 10 | - | 4.5 | 4.8 | - |
| Phosphorus | mg/kg | | | - | - | - | - | - | - | - | - | - | - | 1,000 | 480 | - | 1,300 | 970 | 1,600 | - | 470 | 1,600 | - | 1,400 | 1,600 | - |
| Selenium | mg/kg | 1,800[#1] | | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.5 | <0.5 | <1 | 0.9 | 0.5 | 0.8 | - | <0.5 | 0.9 | - | <0.5 | <0.5 | - |
| Vanadium | mg/kg | 5,000[#1] | | 28 | 3 | 2 | 35 | 6 | 5 | 23 | 4 | 8 | 7 | - | - | 19 | - | - | - | - | - | - | - | - | - | - |
| Zinc | mg/kg | 170,000[#1] | | 42 | 11 | 11 | 47 | 13 | 13 | 87 | 19 | 19 | 16 | 40 | 9.2 | 33 | 66 | 27 | 50 | - | 16 | 45 | - | 22 | 32 | - |
| Boron (Water Soluble) | mg/kg | 46,000[#1] | | 1.7 | <1 | <1 | 1.2 | <1 | <1 | 1.8 | <1 | <1 | <1 | 0.6 | <0.2 | <1 | 0.5 | <0.2 | 0.3 | - | <0.2 | 0.7 | - | <0.2 | 0.2 | - |
| Chromium (hexavalent) | mg/kg | 250[#2] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | - | <1 | <1 | - | <1 | <1 | - |
| Chromium (Trivalent) | mg/kg | 33,000[#1] | | 19 | 2 | 2 | 23 | 4 | 4 | 15 | 2 | 5 | 2 | 11 | 0.85 | 11 | 22 | 6.7 | 9 | - | 1.6 | 13 | - | 3.9 | 5.3 | - |
| Inorganics | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sulphur | mg/kg | | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | 383 | - | - | - | - | - | - | - | - | - | - |
| Cyanide (Free) | mg/kg | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.1 | <0.1 | <1 | 0.2 | <0.1 | 0.1 | - | <0.1 | 0.1 | - | <0.1 | <0.1 | - |
| Cyanide Total | mg/kg | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 0.2 | 0.1 | <1 | 0.3 | <0.1 | 0.2 | - | <0.1 | 0.2 | - | <0.1 | <0.1 | - |
| Fluoride | mg/kg | | | - | 2 | - | 4 | - | 1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sulphate | mg/kg | | | - | <10 | - | <10 | - | 32 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chloride | mg/kg | | | - | <10 | - | <10 | - | 19 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ortho Phosphate as PO4 | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | <10 | - | - | - | - | - | - | - | - | - | - |
| Sulphide | mg/kg | | | - | - | - | - | - | - | - | - | - | - | - | - | <5 | - | - | - | - | - | - | - | - | - | - |
| Ammoniacal Nitrogen as N | mg/kg | | | - | - | - | - | - | - | - | - | - | - | 2.6 | <0.5 | - | 11 | 2.1 | 11 | - | 2.5 | 7.4 | - | 2.6 | 1.9 | - |
| Easily Liberated Sulphide (N | mg/kg | | | <15 | <15 | <15 | 24 | <15 | <15 | <15 | <15 | <15 | <15 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Soluble Sulphate 2:1 extrac | g/L | | | - | - | - | - | - | - | - | - | - | - | 0.02 | <0.01 | - | 0.059 | 0.044 | 0.018 | - | <0.01 | 0.022 | - | 0.014 | 0.02 | - |
| Sulphate (soluble) | g/L | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.03 | <0.01 | <0.01 | <0.01 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| TDS | mg/kg | | | - | 293 | - | 637 | - | 528 | 982 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dry Matter (DM) content | % w/w | | | - | 79.7 | - | 82.1 | - | 79.4 | 80.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Loss on ignition | % | | | - | 1.3 | - | 10.8 | - | 1.3 | 10.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ANC at pH 4 | mol/kg | | | - | 11.5 | - | 4.18 | - | 14.5 | 5.52 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ANC pH_6 dry soil | mol/kg | | | - | 0.13 | - | 0.29 | - | 0.28 | 0.11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Organic Matter | % | | | 8.6 | 0.4 | 0.2 | 4.9 | 0.5 | 0.3 | 5.9 | <0.1 | 0.3 | 0.3 | - | - | 3.1 | - | - | - | - | - | - | - | - | - | - |
| Moisture | % | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 12 | - | - | - | - |
| % Stones >10mm | % w/w | | | <0.1 | <0.1 | <0.1 | 1 | <0.1 | <0.1 | 5.2 | <0.1 | 50.9 | 18.3 | - | - | 28.2 | - | - | - | - | - | 32 | - | - | - | - |
| Fraction Organic Carbon | % | | | 5 | 0.2 | 0.14 | 2.81 | 0.29 | 0.17 | 3.42 | 0.05 | 0.21 | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| pH (Lab) | pH_Units | | | 8.05 | 8.83 | 8.95 | 7.86 | 8.41 | 8.28 | 8.12 | 8.7 | 7.83 | 8.61 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| TOC | % | | | - | - | - | - | - | - | - | - | - | - | 2.8 | <0.1 | 1.81 | 0.5 | 0.5 | 3.7 | - | 0.1 | 4.5 | - | 0.3 | 0.9 | - |
| Asbestos | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asbestos Identification | None | | | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | - | - | Not Detected | - | Not Detected | - | - | Not Detected | - | - | Not Detected | - |
| Biological | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E coli | CFU/g | | | - | - | - | - | - | 420 | - | - | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Coliform | CFU/g | | | - | - | - | - | - | 420 | - | - | 1,900 | 240 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Field | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | pH_Units | | | 7.91 | 7.76 | - | 7.89 | - | 7.76 | 7.59 | 7.27 | 8.04 | - | 7.8 | 8.6 | 7.38 | - | - | - | - | - | - | - | - | - | - |
| Electrical Conductivity | µS/cm | | | - | 99 | - | 217 | - | 290 | 297 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
#3:CL:AIRE C4SL 2021
#4: LQM/CIEH S4ULs 2015 for TPH CWG >EC21-EC35 Aromatics as proxy criteria
#5: LQM/CIEH S4ULs 2015 for TPH CWG >EC8-EC10 Aromatics as proxy criteria

GAC: Generic Assessment Criteria
S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria available
NA: Not assessed
- : Not analysed

| | Units | Human Health, Public Open Space-Park | Monitoring Zone | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | | R71905 | | R71908 | R71915 | R71917 | R72001 | SA504 | | | | |
| | | | Depth Range (m) | 0.5 | 0.3-0.4 | 0.5-0.6 | 0.3 | 0.5 | 0.5 | 1 | 0.1-0.25 | 0.5-0.5 | | | | |
| | | | Date | 07/06/2019 | 25/09/2020 | 25/09/2020 | 24/08/2020 | 01/09/2020 | 28/10/2020 | 26/08/2020 | 08/03/2017 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 749318-5 | 580778 | 580778 | 566566 | 567147 | 580416 | 566438 | GIR_2017 | GIR_2017 | | | | |
| **TPH** | | | | | | | | | | | | | | | | |
| GRO >C5-C10 | mg/kg | | | - | <0.02 | - | <0.02 | <0.02 | - | <0.02 | - | - | 4 | 0 | ND | 0 |
| >C5-C6 Aliphatics | mg/kg | 95,000[#1] | | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 27 | 0 | ND | 0 |
| >C6-C8 Aliphatics | mg/kg | 150,000[#1] | | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 27 | 0 | ND | 0 |
| >C8-C10 Aliphatics | mg/kg | 14,000[#1] | | <0.01 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | 0.02 | <0.01 | 27 | 1 | 0.02 | 0 |
| >C10-C12 Aliphatics | mg/kg | 21,000[#1] | | <1.5 | <1 | - | <1 | <1 | - | <1 | 1 | <0.1 | 27 | 1 | 1 | 0 |
| >C12-C16 Aliphatics | mg/kg | 25,000[#1] | | <1.2 | <1 | - | <1 | <1 | - | <1 | <0.1 | <0.1 | 27 | 0 | ND | 0 |
| >C16-C21 Aliphatics | mg/kg | | | <1.5 | <1 | - | <1 | <1 | - | <1 | <0.1 | <0.1 | 27 | 0 | ND | 0 |
| >C16-C35 Aliphatics | mg/kg | 450,000[#1] | | <4.9 | 4.85 | - | 3.32 | <2 | - | 3.09 | <0.2 | <0.2 | 27 | 5 | 50.4 | 0 |
| >C21-C35 Aliphatics | mg/kg | 7,800[#4] | | <3.4 | 3.85 | - | 2.32 | <1 | - | 2.09 | <0.1 | <0.1 | 27 | 5 | 50.3 | 0 |
| >C35-C44 Aliphatics | mg/kg | 450,000[#1] | | - | <1 | - | <1 | <1 | - | <1 | - | - | 4 | 0 | ND | 0 |
| >C5-C35 Aliphatics | mg/kg | | | <10 | - | - | - | - | - | - | - | - | 11 | 1 | 3 | 0 |
| >C6-C7 Aromatics | mg/kg | | | <0.01 | - | - | - | - | - | - | - | - | 10 | 0 | ND | 0 |
| >C7-C8 Aromatics | mg/kg | 87,000[#1] | | <0.01 | - | - | - | - | - | - | - | - | 10 | 0 | ND | 0 |
| >C8 -C10 Aromatics | mg/kg | 7,200[#1] | | <0.01 | - | - | - | - | - | - | - | - | 10 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | mg/kg | 76,000[#1] | | - | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 17 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | mg/kg | 87,000[#1] | | - | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 17 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | mg/kg | 7,200[#1] | | - | <0.01 | - | <0.01 | <0.01 | - | <0.01 | - | - | 5 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | mg/kg | 7,200[#5] | | - | - | - | - | - | - | - | 0.04 | <0.01 | 12 | 1 | 0.04 | 0 |
| >EC9-EC10 Aromatics | mg/kg | 7,200[#5] | | - | - | - | - | - | - | - | 8.6 | <0.01 | 12 | 1 | 8.6 | 0 |
| >EC10-EC12 Aromatics | mg/kg | 9,200[#1] | | <0.9 | <1 | - | <1 | <1 | - | <1 | 2.5 | <0.1 | 27 | 1 | 2.5 | 0 |
| >EC12-EC16 Aromatics | mg/kg | 10,000[#1] | | <0.5 | <1 | - | <1 | <1 | - | <1 | <0.1 | <0.1 | 27 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | mg/kg | 7,600[#1] | | <0.6 | - | - | - | - | - | - | <0.1 | <0.1 | 23 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | mg/kg | 7,800[#1] | | <1.4 | - | - | - | - | - | - | <0.1 | <0.1 | 23 | 1 | 8 | 0 |
| >EC35-EC44 Aromatics | mg/kg | 7,800[#1] | | - | <1 | - | <1 | <1 | - | <1 | - | - | 4 | 0 | ND | 0 |
| >C5-C35 Aromatics | mg/kg | | | <10 | - | - | - | - | - | - | - | - | 11 | 1 | 8 | 0 |
| >C5-C35 Aliphatics & Arom | mg/kg | | | <10 | - | - | - | - | - | - | - | - | 11 | 1 | 10 | 0 |
| Mineral Oil (C10-C40) | mg/kg | | | - | - | - | - | - | - | - | <10 | <10 | 6 | 3 | 108 | 0 |
| mineral oil | mg/kg | | | - | - | <5 | - | - | <5 | - | - | - | 2 | 0 | ND | 0 |
| Total Aliphatics | mg/kg | | | - | - | - | - | - | - | - | 1 | <0.1 | 12 | 2 | 50.3 | 0 |
| Total Aromatics | mg/kg | | | - | - | - | - | - | - | - | 11.2 | <0.1 | 12 | 1 | 11.2 | 0 |
| Aromatics > EC16-EC21 | mg/kg | 7,600[#1] | | - | <1 | - | <1 | <1 | - | <1 | - | - | 4 | 0 | ND | 0 |
| Aromatics > EC21-EC35 | mg/kg | 7,800[#1] | | - | 1.93 | - | <1 | <1 | - | 1.65 | - | - | 4 | 2 | 1.93 | 0 |
| Aromatics > EC40-EC44 | mg/kg | | | - | <1 | - | <1 | <1 | - | <1 | - | - | 4 | 0 | ND | 0 |
| TPH (Ali & Aro) | mg/kg | | | - | <10 | - | <10 | <10 | - | <10 | 12.1 | <0.1 | 16 | 2 | 50.3 | 0 |
| Total Aliphatics >C10-C44 | mg/kg | | | - | <5 | - | <5 | <5 | - | <5 | - | - | 4 | 0 | ND | 0 |
| Total Aromatics > EC10-EC4 | mg/kg | | | - | <5 | - | <5 | <5 | - | <5 | - | - | 4 | 0 | ND | 0 |
| VOC | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | mg/kg | | | - | - | - | - | <0.006 | - | - | <0.001 | <0.001 | 12 | 0 | ND | 0 |
| MTBE | mg/kg | | | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 28 | 0 | ND | 0 |
| Chloromethane | mg/kg | | | - | - | - | - | <0.007 | - | - | <0.01 | <0.01 | 12 | 0 | ND | 0 |
| Vinyl chloride | mg/kg | 18[#3] | | - | - | - | - | <0.006 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Bromomethane | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 12 | 0 | ND | 0 |
| Chloroethane | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 12 | 0 | ND | 0 |
| Trichlorofluoromethane | mg/kg | | | - | - | - | - | <0.006 | - | - | <0.001 | <0.001 | 12 | 0 | ND | 0 |
| 1,1-dichloroethene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Dichloromethane | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.005 | <0.005 | 12 | 0 | ND | 0 |
| trans-1,2-dichloroethene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,1-dichloroethane | mg/kg | | | - | - | - | - | <0.008 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| cis-1,2-dichloroethene | mg/kg | | | - | - | - | - | <0.006 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 2,2-dichloropropane | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Bromochloromethane | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.005 | <0.005 | 13 | 0 | ND | 0 |
| Chloroform | mg/kg | 2,600[#1] | | - | - | - | - | <0.008 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,1,1-trichloroethane | mg/kg | 57,000[#1] | | - | - | - | - | <0.007 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,1-dichloropropene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Carbon tetrachloride | mg/kg | 190[#1] | | - | - | - | - | <0.01 | - | - | <0.002 | <0.002 | 13 | 0 | ND | 0 |
| 1,2-dichloroethane | mg/kg | 21[#1] | | - | - | - | - | <0.005 | - | - | <0.002 | <0.002 | 13 | 0 | ND | 0 |
| Benzene | mg/kg | 230[#2] | | <0.01 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.01 | <0.01 | 29 | 0 | ND | 0 |
| Trichloroethene | mg/kg | 41[#3] | | - | - | - | - | <0.009 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,2-dichloropropane | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Dibromomethane | mg/kg | | | - | - | - | - | <0.009 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Bromodichloromethane | mg/kg | | | - | - | - | - | <0.007 | - | - | <0.01 | <0.01 | 13 | 0 | ND | 0 |
| cis-1,3-dichloropropene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Toluene | mg/kg | 87,000[#1] | | <0.01 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.01 | <0.01 | 29 | 0 | ND | 0 |
| trans-1,3-dichloropropene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,1,2-trichloroethane | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Tetrachloroethene | mg/kg | 1,400[#3] | | - | - | - | - | <0.005 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,3-dichloropropane | mg/kg | | | - | - | - | - | <0.007 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Sum of PCE and TCE | mg/kg | | | - | - | - | - | <0.014 | - | - | <0.002 | <0.002 | 13 | 0 | ND | 0 |
| Chlorodibromomethane | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.003 | <0.003 | 13 | 0 | ND | 0 |
| 1,2-dibromoethane | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Chlorobenzene | mg/kg | 1,300[#1] | | - | - | - | - | <0.005 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | mg/kg | 1,500[#1] | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Ethylbenzene | mg/kg | 17,000[#1] | | <0.01 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.01 | <0.01 | 28 | 0 | ND | 0 |
| Xylene (m & p) | mg/kg | | | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 20 | 0 | ND | 0 |
| Xylene Total | mg/kg | 17,000[#1] | | <0.01 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.06 | <0.02 | 29 | 1 | 0.06 | 0 |
| Xylene (o) | mg/kg | 17,000[#1] | | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.05 | <0.01 | 20 | 1 | 0.05 | 0 |

| | Units | Human Health, Public Open Space-Park | Monitoring Zone | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | | R71905 | | R71908 | R71915 | R71917 | R72001 | SA504 | | | | |
| | | | Depth Range (m) | 0.5 | 0.3-0.4 | 0.5-0.6 | 0.3 | 0.5 | 0.5 | 1 | 0.1-0.25 | 0.5-0.5 | | | | |
| | | | Date | 07/06/2019 | 25/09/2020 | 25/09/2020 | 24/08/2020 | 01/09/2020 | 28/10/2020 | 26/08/2020 | 08/03/2017 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 749318-5 | 580778 | 580778 | 566566 | 567147 | 580416 | 566438 | GIR_2017 | GIR_2017 | | | | |
| Total BTEX | mg/kg | | | - | <0.04 | - | <0.04 | <0.04 | - | <0.04 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| Styrene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Bromoform | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| Isopropylbenzene | mg/kg | | | - | - | - | - | <0.005 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | mg/kg | 1.800[#1] | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 12 | 0 | ND | 0 |
| Bromobenzene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,2,3-trichloropropane | mg/kg | | | - | - | - | - | <0.016 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| n-propylbenzene | mg/kg | | | - | - | - | - | <0.01 | - | - | 0.006 | <0.001 | 13 | 1 | 0.006 | 0 |
| 2-chlorotoluene | mg/kg | | | - | - | - | - | <0.009 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | mg/kg | | | - | - | - | - | <0.008 | - | - | 0.317 | <0.001 | 13 | 1 | 0.317 | 0 |
| 4-chlorotoluene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| tert-butylbenzene | mg/kg | | | - | - | - | - | <0.014 | - | - | <0.002 | <0.002 | 13 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | mg/kg | | | - | - | - | - | <0.009 | - | - | 0.734 | <0.001 | 13 | 1 | 0.734 | 0 |
| sec-butylbenzene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| p-isopropyltoluene | mg/kg | | | - | - | - | - | <0.01 | - | - | <0.002 | <0.002 | 13 | 0 | ND | 0 |
| 1,3-dichlorobenzene | mg/kg | 390[#1] | | - | - | - | - | <0.008 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,4-dichlorobenzene | mg/kg | 36.000[#1] | | - | - | - | - | <0.005 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| n-butylbenzene | mg/kg | | | - | - | - | - | <0.011 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,2-dichlorobenzene | mg/kg | 24.000[#1] | | - | - | - | - | <0.01 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropa | mg/kg | | | - | - | - | - | <0.014 | - | - | <0.002 | <0.002 | 13 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | mg/kg | 1.700[#1] | | - | - | - | - | <0.02 | - | - | <0.003 | <0.003 | 13 | 0 | ND | 0 |
| Hexachlorobutadiene | mg/kg | 48[#1] | | - | - | - | - | <0.02 | - | - | <0.001 | <0.001 | 13 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | mg/kg | 770[#1] | | - | - | - | - | <0.02 | - | - | <0.003 | <0.003 | 13 | 0 | ND | 0 |
| 1,2-Dichloroethene | mg/kg | | | - | - | - | - | <0.016 | - | - | <0.002 | <0.002 | 13 | 0 | ND | 0 |
| Trihalomethanes | mg/kg | | | - | - | - | - | <0.035 | - | - | <0.015 | <0.015 | 13 | 0 | ND | 0 |
| VOC TICs | mg/kg | | | - | - | - | - | <0.05 | - | - | - | - | 1 | 0 | ND | 0 |
| Carbon disulfide | mg/kg | 1.300[#1] | | - | - | - | - | <0.007 | - | - | <0.001 | <0.001 | 12 | 0 | ND | 0 |
| Hexachlorobenzene | mg/kg | 30[#1] | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 13 | 0 | ND | 0 |
| Tert Amyl Methyl Ether | mg/kg | | | - | - | - | <0.01 | <0.01 | - | - | - | - | 2 | 0 | ND | 0 |
| Trichlorobenzene (total) | mg/kg | | | - | - | - | - | <0.04 | - | - | <0.006 | <0.006 | 13 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | | |
| Naphthalene | mg/kg | 1,200[#1] | | <0.03 | <0.009 | - | 0.0193 | <0.009 | - | <0.009 | 0.09 | <0.03 | 27 | 2 | 0.09 | 0 |
| Acenaphthylene | mg/kg | 29.000[#1] | | <0.03 | <0.012 | - | <0.012 | <0.012 | - | <0.012 | <0.01 | <0.01 | 27 | 1 | 0.04 | 0 |
| Acenaphthene | mg/kg | 29.000[#1] | | <0.03 | <0.008 | - | <0.008 | <0.008 | - | <0.008 | <0.01 | <0.01 | 27 | 0 | ND | 0 |
| Fluorene | mg/kg | 20.000[#1] | | <0.03 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 27 | 0 | ND | 0 |
| Phenanthrene | mg/kg | 6.200[#1] | | <0.03 | 0.0255 | - | <0.015 | <0.015 | - | <0.015 | <0.03 | <0.03 | 27 | 5 | 0.59 | 0 |
| Anthracene | mg/kg | 150,000[#1] | | <0.03 | <0.016 | - | <0.016 | <0.016 | - | <0.016 | <0.02 | <0.02 | 27 | 2 | 0.12 | 0 |
| Fluoranthene | mg/kg | 6.300[#1] | | <0.03 | 0.0843 | - | <0.017 | <0.017 | - | <0.017 | <0.08 | <0.08 | 27 | 6 | 0.99 | 0 |
| Pyrene | mg/kg | 15.000[#1] | | <0.03 | 0.0716 | - | <0.015 | <0.015 | - | <0.015 | <0.07 | <0.07 | 27 | 5 | 0.92 | 0 |
| Benz(a)anthracene | mg/kg | 49[#1] | | <0.03 | 0.0417 | - | <0.014 | <0.014 | - | <0.014 | <0.04 | <0.04 | 27 | 4 | 0.38 | 0 |
| Chrysene | mg/kg | 93[#1] | | <0.03 | 0.0427 | - | <0.01 | <0.01 | - | <0.01 | <0.06 | <0.06 | 27 | 4 | 0.51 | 0 |
| Benzo(a) pyrene | mg/kg | 21[#2] | | <0.03 | 0.0477 | - | <0.015 | <0.015 | - | <0.015 | <0.04 | <0.04 | 27 | 5 | 0.43 | 0 |
| Indeno(1,2,3-c,d)pyrene | mg/kg | 150[#1] | | <0.03 | 0.0395 | - | <0.018 | <0.018 | - | <0.018 | <0.03 | <0.03 | 27 | 5 | 0.19 | 0 |
| Dibenz(a,h)anthracene | mg/kg | 1.1[#1] | | <0.03 | <0.023 | - | <0.023 | <0.023 | - | <0.023 | <0.04 | <0.04 | 27 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | mg/kg | 1,400[#1] | | <0.03 | 0.037 | - | <0.024 | <0.024 | - | <0.024 | <0.05 | <0.05 | 27 | 4 | 0.23 | 0 |
| Benzo(b)fluoranthene | mg/kg | 13[#1] | | <0.03 | 0.0688 | - | <0.015 | <0.015 | - | <0.015 | <0.05 | <0.05 | 27 | 5 | 0.24 | 0 |
| Benzo(k)fluoranthene | mg/kg | 370[#1] | | <0.03 | 0.0289 | - | <0.014 | <0.014 | - | <0.014 | <0.07 | <0.07 | 27 | 4 | 0.22 | 0 |
| Benzo(b)&(k)fluoranthene | mg/kg | | | <0.06 | 0.0977 | - | <0.029 | <0.029 | - | <0.029 | <0.12 | <0.12 | 27 | 5 | 0.45 | 0 |
| PAHs (sum of 4) | mg/kg | | | <0.12 | 0.1742 | - | <0.071 | <0.071 | - | <0.071 | <0.2 | <0.2 | 27 | 5 | 0.87 | 0 |
| PAH 16 Total | mg/kg | | | <0.1 | 0.488 | - | <0.118 | <0.118 | - | <0.118 | <0.08 | <0.08 | 27 | 5 | 4.8 | 0 |
| PAH 17 Total | mg/kg | | | - | - | <10 | - | - | <10 | - | <0.08 | <0.08 | 8 | 0 | ND | 0 |
| benzo(g,h,i)perylene + inde | mg/kg | | | <0.06 | 0.0765 | - | <0.042 | <0.042 | - | <0.042 | <0.08 | <0.08 | 27 | 5 | 0.42 | 0 |
| Benzo(a)pyrene (surrogate | mg/kg | 4.4[#1] | | <0.03 | 0.0477 | - | <0.015 | <0.015 | - | <0.015 | <0.04 | <0.04 | 27 | 5 | 0.43 | 0 |
| SVOC | | | | | | | | | | | | | | | | |
| SVOC TICs | mg/kg | | | - | - | - | - | <1 | - | - | - | - | 1 | 0 | ND | 0 |
| Coronene | mg/kg | | | - | - | <0.2 | - | - | <0.2 | - | - | - | 2 | 0 | ND | 0 |
| 2-chlorophenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 2-methylphenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 2-nitrophenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 2,4-dichlorophenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 2,4-dimethylphenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 4-methylphenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 4-nitrophenol | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Pentachlorophenol | mg/kg | 110[#1] | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Phenol | mg/kg | 440[#1] | | 0.9 | <0.01 | - | <0.01 | <0.01 | - | <0.01 | <0.1 | <0.1 | 25 | 6 | 1.5 | 0 |
| 2-chloronaphthalene | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 2-methylnaphthalene | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Butyl benzyl phthalate | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Di-n-butyl phthalate | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Di-n-octyl phthalate | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Diethylphthalate | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Dimethyl phthalate | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| 2-nitroaniline | mg/kg | | | - | - | - | - | <0.1 | - | - | - | - | 1 | 0 | ND | 0 |

| | Units | Human Health, Public Open Space-Park | Monitoring Zone | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | | R71905 | | R71908 | R71915 | R71917 | R72001 | SA504 | | | | |
| | | | Depth Range (m) | 0.5 | 0.3-0.4 | 0.5-0.6 | 0.3 | 0.5 | 0.5 | 1 | 0.1-0.25 | 0.5-0.5 | | | | |
| | | | Date | 07/06/2019 | 25/09/2020 | 25/09/2020 | 24/08/2020 | 01/09/2020 | 28/10/2020 | 26/08/2020 | 08/03/2017 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 749318-5 | 580778 | 580778 | 566566 | 567147 | 580416 | 566438 | GIR_2017 | GIR_2017 | | | | |
| 3-nitroaniline | mg/kg | | | - | - | - | - | <0.1 | - | - | - | - | 1 | 0 | ND | 0 |
| 4-bromophenyl phenyl ethe | mg/kg | | | - | - | - | - | <0.1 | - | - | - | - | 1 | 0 | ND | 0 |
| 4-chloroaniline | mg/kg | | | - | - | - | - | <0.1 | - | - | - | - | 1 | 0 | ND | 0 |
| 4-chlorophenyl phenyl ethe | mg/kg | | | - | - | - | - | <0.1 | - | - | - | - | 1 | 0 | ND | 0 |
| 4-nitroaniline | mg/kg | | | - | - | - | - | <0.1 | - | - | - | - | 1 | 0 | ND | 0 |
| Azobenzene | mg/kg | | | - | - | - | - | <0.1 | - | - | - | - | 1 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methar | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Carbazole | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Dibenzofuran | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | mg/kg | | | - | - | - | - | <0.2 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Hexachloroethane | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Isophorone | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| Bis(2-chloroisopropyl) ethe | mg/kg | | | - | - | - | - | - | - | - | <0.1 | <0.1 | 11 | 0 | ND | 0 |
| Perylene | mg/kg | | | - | - | - | - | - | - | - | <0.1 | <0.1 | 11 | 0 | ND | 0 |
| Bis(2-chloroisopropyl)ether | mg/kg | | | - | - | - | - | <0.1 | - | - | - | - | 1 | 0 | ND | 0 |
| Phenols | mg/kg | | | - | - | - | - | - | - | - | <0.2 | <0.2 | 12 | 2 | 6.9 | 0 |
| Total Phenols | mg/kg | | | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCBs | | | | | | | | | | | | | | | | |
| PCB 118 | mg/kg | | | - | - | <0.003 | - | - | <0.003 | - | - | - | 2 | 0 | ND | 0 |
| PCB 28 | mg/kg | | | - | - | <0.003 | - | - | <0.003 | - | - | - | 2 | 0 | ND | 0 |
| PCB 52 | mg/kg | | | - | - | <0.003 | - | - | <0.003 | - | - | - | 2 | 0 | ND | 0 |
| PCB 101 | mg/kg | | | - | - | <0.003 | - | - | <0.003 | - | - | - | 2 | 0 | ND | 0 |
| PCB 138 | mg/kg | | | - | - | <0.003 | - | - | <0.003 | - | - | - | 2 | 0 | ND | 0 |
| PCB 153 | mg/kg | | | - | - | <0.003 | - | - | <0.003 | - | - | - | 2 | 0 | ND | 0 |
| PCB 180 | mg/kg | | | - | - | <0.003 | - | - | <0.003 | - | - | - | 2 | 0 | ND | 0 |
| PCBs (Sum of total) | mg/kg | | | - | - | - | - | - | - | - | <0.007 | <0.007 | 6 | 0 | ND | 0 |
| Total PCB 7 Congeners | mg/kg | | | - | - | <0.021 | - | - | <0.021 | - | - | - | 2 | 0 | ND | 0 |
| Herbicides and Pesticides | | | | | | | | | | | | | | | | |
| Bolstar | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Endosulphan I & Alpha-chlo | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Endosulphan II & 4,4-DDD | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Permethrin I | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Tokuthion | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Quintozene; (PCNB) | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Baythroid | mg/kg | | | - | - | - | - | - | - | - | - | - | 5 | 0 | ND | 0 |
| gamma-HCH | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Symetryn | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Aldrin | mg/kg | 30[#1] | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| a-BHC | mg/kg | 47[#1] | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| b-BHC | mg/kg | 15[#1] | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Chlorothalonil | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Chlordane (cis) | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Dieldrin | mg/kg | 30[#1] | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Endosulfan I | mg/kg | 2,400[#1] | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 14 | 0 | ND | 0 |
| Endosulfan II | mg/kg | 2,400[#1] | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 14 | 0 | ND | 0 |
| Endosulfan sulphate | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Endrin | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| g-BHC (Lindane) | mg/kg | 14[#1] | | - | <0.05 | - | <0.05 | <0.05 | - | - | - | - | 5 | 0 | ND | 0 |
| Heptachlor | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Heptachlor epoxide | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Isodrin | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| o,p''-DDE | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| o,p''-Methoxychlor | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| o,p-DDD | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 14 | 0 | ND | 0 |
| 4,4-DDE | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| DDT | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | - | - | 3 | 0 | ND | 0 |
| Methoxychlor | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| DDD | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Pendimethalin | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Permethrin II | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Tecnazene | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Telodrin | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Chlordane (trans) | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Triadimefon | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Triallate | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Trifluralin | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Aldrin + Dieldrin | mg/kg | | | - | <0.1 | - | <0.1 | <0.1 | - | - | <0.1 | <0.1 | 16 | 0 | ND | 0 |
| gamma-Chlordane | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| d-BHC | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Endrin aldehyde | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Endrin ketone | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Azinphos Ethyl | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Azinophos methyl | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Carbophenothion | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Chlorfenvinphos | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |

| | Units | Human Health, Public Open Space-Park | Monitoring Zone | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | | R71905 | | R71908 | R71915 | R71917 | R72001 | SA504 | | | | |
| | | | Depth Range (m) | 0.5 | 0.3-0.4 | 0.5-0.6 | 0.3 | 0.5 | 0.5 | 1 | 0.1-0.25 | 0.5-0.5 | | | | |
| | | | Date | 07/06/2019 | 25/09/2020 | 25/09/2020 | 24/08/2020 | 01/09/2020 | 28/10/2020 | 26/08/2020 | 08/03/2017 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 749318-5 | 580778 | 580778 | 566566 | 567147 | 580416 | 566438 | GIR_2017 | GIR_2017 | | | | |
| Chlorpyrifos | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Chlorpyrifos-methyl | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Diazinon | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Dichlorvos | mg/kg | 26[#1] | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Dimethoate | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Ethion | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 14 | 0 | ND | 0 |
| Parathion | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 14 | 0 | ND | 0 |
| Etrimphos | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Fenitrothion | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 14 | 0 | ND | 0 |
| Fenthion | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 13 | 0 | ND | 0 |
| Malathion | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 14 | 0 | ND | 0 |
| Methyl parathion | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Phosalone | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Pirimiphos-methyl | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Propetamphos | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Triazophos | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Coumaphos | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Demeton-O | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Demeton-S | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Disulfoton | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Ethoprop | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Fensulfothion | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Merphos | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Naled (Dibrom) | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Phorate | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | - | - | 5 | 0 | ND | 0 |
| Ronnel | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Stirophos | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Cyhalothrin/Karate | mg/kg | | | - | - | - | - | - | - | - | <0.1 | <0.1 | 11 | 0 | ND | 0 |
| Cypermethrins(total) | mg/kg | | | - | - | - | - | - | - | - | <0.1 | <0.1 | 11 | 0 | ND | 0 |
| Deltamethrin | mg/kg | | | - | - | - | - | - | - | - | <0.1 | <0.1 | 11 | 0 | ND | 0 |
| Fenvalerate | mg/kg | | | - | - | - | - | - | - | - | <0.1 | <0.1 | 11 | 0 | ND | 0 |
| Permethrin | mg/kg | | | - | - | - | - | - | - | - | <0.1 | <0.1 | 11 | 0 | ND | 0 |
| Aldrin+Dieldrin+Endrin+Iso | mg/kg | | | - | <0.15 | - | <0.15 | <0.15 | - | - | <0.2 | <0.2 | 16 | 0 | ND | 0 |
| Trichlorinate | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Atrazine | mg/kg | 2.300[#1] | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Simazine | mg/kg | | | - | <0.05 | - | <0.05 | <0.05 | - | - | <0.05 | <0.05 | 16 | 0 | ND | 0 |
| Chlopyrifos | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Ametryn | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 13 | 0 | ND | 0 |
| Atraton | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 13 | 0 | ND | 0 |
| Prometon | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 13 | 0 | ND | 0 |
| Prometryn | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Propazine | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 13 | 0 | ND | 0 |
| Simetryn | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Terbutryn | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 13 | 0 | ND | 0 |
| Prometryne | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| p,p-DDT | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 13 | 0 | ND | 0 |
| o,p DDT | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 11 | 0 | ND | 0 |
| Terbutylazine | mg/kg | | | - | - | - | - | - | - | - | <0.05 | <0.05 | 13 | 0 | ND | 0 |
| Secbumeton | mg/kg | | | - | - | - | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Cyfluthrin | mg/kg | | | - | - | - | - | - | - | - | <0.1 | <0.1 | 6 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (TNT) | mg/kg | 260[#1] | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2,4,6-trinitrophenyl | mg/kg | | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2,4-Dinitrotoluene | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 15 | 0 | ND | 0 |
| 2,6-dinitrotoluene | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 15 | 0 | ND | 0 |
| Nitrobenzene | mg/kg | | | - | - | - | - | <0.1 | - | - | <0.1 | <0.1 | 12 | 0 | ND | 0 |
| HMX | mg/kg | 23.000[#1] | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Ethylene glycol dinitrate | mg/kg | | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Nitrocellulose (12% N) | mg/kg | | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Nitroglycerine | mg/kg | | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Nitroguanidine | mg/kg | | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| PETN | mg/kg | | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| RDX | mg/kg | 49.000[#1] | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Tetryl | mg/kg | | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Hexanitrostilbene (HNS) | mg/kg | | | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | | |
| Antimony | mg/kg | | | <1 | <0.6 | - | <0.6 | <0.6 | - | <0.6 | <0.01 | <0.01 | 21 | 2 | 1.4 | 0 |
| Arsenic | mg/kg | 170[#2] | | 8.8 | <0.6 | - | 2.46 | <0.6 | - | 0.641 | 1 | <1 | 27 | 17 | 8.8 | 0 |
| Barium | mg/kg | | | - | - | - | - | - | - | - | 37 | 7 | 13 | 13 | 73 | 0 |
| Beryllium | mg/kg | 63[#1] | | 0.6 | 0.148 | - | 0.121 | 0.0631 | - | 0.0622 | <1 | <1 | 27 | 12 | 1 | 0 |
| Boron | mg/kg | 46.000[#1] | | - | 2.93 | - | 1.97 | 2.12 | - | 1.73 | - | - | 4 | 4 | 2.93 | 0 |
| Cadmium | mg/kg | 880[#2] | | 1.1 | 0.488 | - | 0.419 | 0.273 | - | 0.19 | 0.9 | <0.5 | 27 | 22 | 1.6 | 0 |
| Chromium (III+VI) | mg/kg | ther CrIII or | | - | 3.73 | - | 2.14 | 1.39 | - | 1.12 | 12 | 2 | 17 | 17 | 23 | 0 |
| Copper | mg/kg | 44.000[#1] | | 20 | 1.72 | - | 7.68 | <1.4 | - | <1.4 | 7 | <1 | 27 | 23 | 20 | 0 |
| Iron | mg/kg | | | 15,000 | 2,150 | - | 2,460 | <1,000 | - | <1,000 | - | - | 14 | 12 | 17000 | 0 |
| Lead | mg/kg | 1,300[#2] | | 29 | 3.43 | - | 23.7 | <0.7 | - | 0.704 | 12 | 1 | 27 | 25 | 220 | 0 |

| | Units | Human Health, Public Open Space-Park | Monitoring Zone | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71905 | | R71908 | R71915 | R71917 | R72001 | SA504 | | | | | |
| | | | Depth Range (m) | 0.5 | 0.3-0.4 | 0.5-0.6 | 0.3 | 0.5 | 0.5 | 1 | 0.1-0.25 | 0.5-0.5 | | | | |
| | | | Date | 07/06/2019 | 25/09/2020 | 25/09/2020 | 24/08/2020 | 01/09/2020 | 28/10/2020 | 26/08/2020 | 08/03/2017 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 749318-5 | 580778 | 580778 | 566566 | 567147 | 580416 | 566438 | GIR_2017 | GIR_2017 | | | | |
| Manganese | mg/kg | | | 940 | 307 | - | 217 | 169 | - | 157 | 695 | 227 | 27 | 27 | 1000 | 0 |
| Mercury | mg/kg | 240[#1] | | <0.05 | <0.14 | - | <0.14 | <0.14 | - | <0.14 | 0.27 | 0.93 | 27 | 10 | 1.17 | 0 |
| Molybdenum | mg/kg | | | 0.6 | 0.196 | - | 0.17 | <0.1 | - | <0.1 | <1 | <1 | 27 | 5 | 0.6 | 0 |
| Nickel | mg/kg | 800[#1] | | 14 | 3.49 | - | 3.39 | 1.44 | - | 1.6 | 9 | 2 | 27 | 27 | 22 | 0 |
| Phosphorus | mg/kg | | | 1,400 | 547 | - | 465 | 572 | - | 429 | - | - | 14 | 14 | 1600 | 0 |
| Selenium | mg/kg | 1,800[#1] | | 0.5 | <1 | - | <1 | <1 | - | <1 | 1 | <1 | 27 | 7 | 1 | 0 |
| Vanadium | mg/kg | 5,000[#1] | | - | - | - | - | - | - | - | 19 | 4 | 13 | 13 | 35 | 0 |
| Zinc | mg/kg | 170,000[#1] | | 76 | 22.8 | - | 42.7 | 10.6 | - | 10 | 34 | 11 | 27 | 27 | 87 | 0 |
| Boron (Water Soluble) | mg/kg | 46,000[#1] | | 0.5 | - | - | - | - | - | - | 2.2 | <1 | 23 | 10 | 2.2 | 0 |
| Chromium (hexavalent) | mg/kg | 250[#2] | | <1 | 1.33 | - | <0.6 | <0.6 | - | <0.6 | <1 | <1 | 27 | 1 | 1.33 | 0 |
| Chromium (Trivalent) | mg/kg | 33,000[#1] | | 18 | 2.4 | - | 2.14 | 1.39 | - | 1.12 | 12 | 2 | 27 | 27 | 23 | 0 |
| Inorganics | | | | | | | | | | | | | | | | |
| Sulphur | mg/kg | | | - | - | - | - | - | - | - | <5 | <5 | 13 | 1 | 383 | 0 |
| Cyanide (Free) | mg/kg | | | 0.1 | - | - | - | - | - | - | <1 | <1 | 23 | 4 | 0.2 | 0 |
| Cyanide Total | mg/kg | | | 0.2 | <1 | - | <1 | <1 | - | <1 | <1 | <1 | 27 | 6 | 0.3 | 0 |
| Fluoride | mg/kg | | | - | - | - | - | - | - | - | 5 | <1 | 6 | 4 | 5 | 0 |
| Sulphate | mg/kg | | | - | - | - | - | - | - | - | <10 | <10 | 6 | 1 | 32 | 0 |
| Chloride | mg/kg | | | - | - | - | - | - | - | - | <10 | 14 | 6 | 2 | 19 | 0 |
| Ortho Phosphate as PO4 | mg/kg | | | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Sulphide | mg/kg | | | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Ammoniacal Nitrogen as N | mg/kg | | | 10 | <12 | - | <12 | <12 | - | <12 | - | - | 14 | 9 | 11 | 0 |
| Easily Liberated Sulphide (N | mg/kg | | | - | - | - | - | - | - | - | <15 | <15 | 12 | 1 | 24 | 0 |
| Soluble Sulphate 2:1 extrac | g/L | | | 0.023 | - | - | - | - | - | - | - | - | 10 | 8 | 0.059 | 0 |
| Sulphate (soluble) | g/L | | | - | 0.0119 | - | 0.043 | 0.0102 | - | 0.0314 | <0.01 | <0.01 | 16 | 5 | 0.043 | 0 |
| TDS | mg/kg | | | - | - | - | - | - | - | - | 676 | 279 | 6 | 6 | 982 | 0 |
| Other | | | | | | | | | | | | | | | | |
| Dry Matter (DM) content | % w/w | | | - | - | - | - | - | - | - | 81.3 | 83.4 | 6 | 6 | 83.4 | 0 |
| Loss on ignition | % | | | - | - | - | - | - | - | - | 7.5 | 0.7 | 6 | 6 | 10.8 | 0 |
| ANC at pH 4 | mol/kg | | | - | - | - | - | - | - | - | 9.16 | 13.3 | 6 | 6 | 14.5 | 0 |
| ANC pH_6 dry soil | mol/kg | | | - | - | - | - | - | - | - | 0.34 | 1.31 | 6 | 6 | 1.31 | 0 |
| Organic Matter | % | | | - | - | - | - | - | - | - | 4.5 | <0.1 | 13 | 11 | 8.6 | 0 |
| Moisture | % | | | - | 8.4 | 18 | 17 | 21 | 24 | 20 | - | - | 7 | 7 | 24 | 0 |
| % Stones >10mm | % w/w | | | - | - | - | - | - | - | - | <0.1 | <0.1 | 14 | 6 | 50.9 | 0 |
| Fraction Organic Carbon | % | | | - | - | - | - | - | - | - | 2.63 | 0.05 | 12 | 12 | 5 | 0 |
| pH (Lab) | pH_Units | | | - | 8.46 | - | 8.98 | 8.78 | - | - | 8.25 | 8.8 | 15 | 15 | 8.98 | 0 |
| TOC | % | | | 1.9 | 0.575 | <0.2 | 0.334 | <0.2 | <0.2 | <0.2 | - | - | 17 | 12 | 4.5 | 0 |
| Asbestos | | | | | | | | | | | | | | | | |
| Asbestos Identification | None | | | - | - | - | Not Detected | - | - | - | Not Detected | Not Detected | 0 | 0 | ND | 0 |
| Biological | | | | | | | | | | | | | | | | |
| E coli | CFU/g | | | - | - | - | - | - | - | - | - | - | 3 | 1 | 420 | 0 |
| Coliform | CFU/g | | | - | - | - | - | - | - | - | - | - | 3 | 3 | 1900 | 0 |
| Field | | | | | | | | | | | | | | | | |
| pH | pH_Units | | | - | - | - | - | - | - | - | 7.61 | 7.32 | 12 | 12 | 8.6 | 0 |
| Electrical Conductivity | µS/cm | | | - | - | - | - | - | - | - | 213 | 118 | 6 | 6 | 297 | 0 |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
#3:CL:AIRE C4SL 2021
#4: LQM/CIEH S4ULs 2015 for TPH CWG >EC21-EC35 Aromatics as proxy criteria
#5: LQM/CIEH S4ULs 2015 for TPH CWG >EC8-EC10 Aromatics as proxy criteria

GAC: Generic Assessment Criteria
S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria available
NA: Not assessed
- : Not analysed

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | BH1 | BH2_CRI | BH72401 | | BH72404 | BH72501 | | | BH72502 | BH72503 | CP72308 | | | CP72308A | CP72602 | CPES1 | | R507A | | | R72004 | R72005 | R72006 | |
| | | Depth Range (m) | 0.5 | 0.5 | 0.5 | 1 | 0.1-0.1 | 0.3 | 0.5 | 2.2 | 0.1-0.1 | 0.4-0.5 | 0.2-0.2 | 0.6-0.6 | 1.75-1.85 | 0.2 | 3.5-3.95 | 0.5 | 3.5 | 0-0.05 | 0.5-1 | 3.9-3.9 | 0.5 | 1 | 0.3 | 1 |
| | | Date | 21/08/2009 | 21/08/2009 | 16/09/2020 | 16/09/2020 | 13/11/2019 | 25/11/2019 | 25/11/2019 | 26/11/2019 | 14/11/2019 | 17/09/2020 | 13/10/2020 | 13/10/2020 | 14/10/2020 | 21/10/2020 | 02/10/2020 | 02/12/2020 | 03/12/2020 | 13/02/2017 | 13/02/2017 | 14/02/2017 | 26/08/2020 | 05/10/2020 | 08/10/2020 | 08/10/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | GIR_2009 | GIR_2009 | 580777 | 580777 | 18/08308 | 19-23362 | 19-24827 | 19-25097 | 18/08308 | 569585 | 574317 | 574317 | 574317 | 580701 | 580694 | 579931 | 579931 | GIR_2017 | GIR_2017 | GIR_2017 | 566438 | 580694 | 580779 | 580779 |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | | | | |
| >C08-C10 | 7,200[#4] | | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C10-C12 | 9,200[#5] | | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C12-C16 | 10,000[#6] | | 3 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C16-C21 | 7,600[#7] | | 24.2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C21-C35 | 7,800[#8] | | 156 | 27 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GRO >C5-C10 | 7,200[#4] | | - | - | <0.02 | <0.02 | - | - | - | - | - | <0.02 | 2.34 | 0.113 | <0.02 | 0.432 | - | <0.02 | <0.02 | - | - | - | <0.02 | <0.02 | <0.02 | <0.02 |
| GRO >C5-C12 | 7,600[#7] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C10-C40 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C6 Aliphatics | 95,000[#1] | | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.0225 | 0.0174 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C6-C8 Aliphatics | 150,000[#1] | | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.122 | 0.0322 | <0.01 | 0.0556 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C8-C10 Aliphatics | 14,000[#1] | | - | - | <0.01 | <0.01 | 2.4 | <0.01 | <0.01 | <0.01 | 1.4 | <0.01 | 1.29 | 0.0632 | <0.01 | 0.225 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C10-C12 Aliphatics | 21,000[#1] | | - | - | <1 | <1 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1 | 10.2 | <1 | <1 | <10 | 2.03 | <1 | <1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <1 | <1 |
| >C12-C16 Aliphatics | 25,000[#1] | | - | - | <1 | <1 | <1.2 | <1.2 | <1.2 | <1.2 | <1.2 | <1 | 29.6 | <1 | <1 | 11.1 | 12.3 | <1 | <1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <1 | <1 |
| >C16-C21 Aliphatics | 7,600[#7] | | - | - | <1 | <1 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1 | 29.1 | <1 | <1 | 14.5 | 19.3 | <1 | <1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <1 | <1 |
| >C16-C35 Aliphatics | 450,000[#1] | | - | - | 17.1 | 2.44 | <4.9 | <4.9 | <4.9 | <4.9 | <4.9 | 13.6 | 127.5 | 2.92 | 25.5 | 85.2 | 56.8 | 2.71 | <2 | <0.2 | <0.2 | <0.2 | 8.75 | <2 | 2.53 | <2 |
| >C21-C35 Aliphatics | 7,800[#8] | | - | - | 16.1 | 1.44 | <3.4 | <3.4 | <3.4 | <3.4 | <3.4 | 12.6 | 98.4 | 1.92 | 24.5 | 70.7 | 37.5 | 1.71 | <1 | <0.1 | <0.1 | <0.1 | 7.75 | <1 | 1.53 | <1 |
| >C35-C44 Aliphatics | 450,000[#1] | | - | - | 1.79 | <1 | - | - | - | - | - | 3.75 | 64.8 | <1 | 3.87 | 16.2 | 15.2 | <1 | <1 | - | - | - | <1 | <1 | <1 | <1 |
| >C5-C35 Aliphatics | | | - | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C6-C7 Aromatics | | | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C7-C8 Aromatics | | | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C8 -C10 Aromatics | | | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC5-EC7 Aromatics | 76,000[#1] | | - | - | <0.01 | <0.01 | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >EC7-EC8 Aromatics | 87,000[#1] | | - | - | <0.01 | <0.01 | - | - | - | - | - | <0.01 | 0.0389 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >EC8-EC10 Aromatics | 7,200[#1] | | - | - | <0.01 | <0.01 | - | - | - | - | - | <0.01 | 0.863 | 0.0422 | <0.01 | 0.151 | - | <0.01 | <0.01 | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 |
| >EC8-EC9 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | - | - |
| >EC9-EC10 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | - | - |
| >EC10-EC12 Aromatics | 9,200[#1] | | - | - | <1 | <1 | <0.9 | <0.9 | <0.9 | <0.9 | <0.9 | <1 | 70.3 | 3.23 | <1 | 57.9 | <1 | <1 | <1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <1 | <1 |
| >EC12-EC16 Aromatics | 10,000[#1] | | - | - | <1 | <1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | 271 | 14.4 | <1 | 305 | 5.45 | <1 | <1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <1 | <1 |
| >EC16-EC21 Aromatics | 7,600[#1] | | - | - | - | - | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | - | - | - | - | - | - | - | - | <0.1 | 2.2 | <0.1 | - | - | - | - |
| >EC21-EC35 Aromatics | 7,800[#1] | | - | - | - | - | <1.4 | <1.4 | <1.4 | <1.4 | <1.4 | - | - | - | - | - | - | - | - | <0.1 | 30.1 | <0.1 | - | - | - | - |
| >EC35-EC44 Aromatics | 7,800[#1] | | - | - | 1.22 | <1 | - | - | - | - | - | 1.03 | 129 | 5.07 | 3.28 | 206 | 9.29 | <1 | <1 | - | - | - | <1 | <1 | <1 | <1 |
| >C5-C35 Aromatics | | | - | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C35 Aliphatics & Aromat | | | - | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Gasoline Range Organics | | | 0.2 | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mineral Oil (C10-C40) | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | 41 | - | - | - | - | - |
| mineral oil | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aliphatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | - | - |
| Total Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | 32.5 | <0.1 | - | - | - | - |
| Aromatics > EC16-EC21 | 7,600[#1] | | - | - | 4.03 | 1.95 | - | - | - | - | - | 1.12 | 727 | 46 | 1.87 | 957 | 61.3 | <1 | <1 | - | - | - | <1 | <1 | <1 | <1 |
| Aromatics > EC21-EC35 | 7,800[#1] | | - | - | 12.4 | 6.38 | - | - | - | - | - | 7 | 842 | 50.2 | 15.5 | 1,410 | 68.8 | 2.41 | <1 | - | - | - | 4.49 | <1 | <1 | <1 |
| Aromatics > EC40-EC44 | 7,800[#9] | | - | - | <1 | <1 | - | - | - | - | - | <1 | 18.3 | <1 | <1 | 35.9 | 5.26 | <1 | <1 | - | - | - | <1 | <1 | <1 | <1 |
| TPH (Ali & Aro) | | | 207 | 33 | 36.3 | 11.2 | - | - | - | - | - | 26.6 | 2,270 | 122 | 50.6 | 3,050 | 231 | <10 | <10 | <0.1 | 32.5 | <0.1 | 13.9 | <10 | <10 | <10 |
| Total Aliphatics >C10-C44 | | | - | - | 18.6 | <5 | - | - | - | - | - | 17.2 | 232 | <5 | 29.3 | 116 | 86.4 | <5 | <5 | - | - | - | 7.99 | <5 | <5 | <5 |
| Total Aromatics > EC10-EC44 | | | - | - | 17.7 | 9.47 | - | - | - | - | - | 9.46 | 2,040 | 119 | 21.2 | 2,930 | 145 | <5 | <5 | - | - | - | 5.96 | <5 | <5 | <5 |
| VOC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,3,5-Trichlorobenzene | 380[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dichlorodifluoromethane | | | - | - | - | <0.006 | - | - | - | - | - | <0.006 | <1.2 | - | - | <0.12 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.006 | <0.006 | - |
| MTBE | | | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <2 | <0.01 | <0.2 | <0.2 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Chloromethane | | | - | - | - | <0.007 | - | - | - | - | - | <0.007 | <1.4 | - | - | <0.14 | - | - | - | <0.01 | <0.01 | <0.01 | - | <0.007 | <0.007 | - |
| Vinyl chloride | 18[#3] | | - | - | - | <0.006 | - | - | - | - | - | <0.006 | <1.2 | - | - | <0.12 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.006 | <0.006 | - |
| Bromomethane | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Chloroethane | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Trichlorofluoromethane | | | - | - | - | <0.006 | - | - | - | - | - | <0.006 | <1.2 | - | - | <0.12 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.006 | <0.006 | - |
| 1,1-dichloroethene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Dichloromethane | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.005 | <0.005 | <0.005 | - | 0.0248 | <0.01 | - |
| trans-1,2-dichloroethene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| 1,1-dichloroethane | | | - | - | - | <0.008 | - | - | - | - | - | <0.008 | <1.6 | - | - | <0.16 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.008 | <0.008 | - |
| cis-1,2-dichloroethene | | | - | - | - | <0.006 | - | - | - | - | - | <0.006 | <1.2 | - | - | <0.12 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.006 | <0.006 | - |
| 2,2-dichloropropane | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Bromochloromethane | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.005 | <0.005 | <0.005 | - | <0.01 | <0.01 | - |
| Chloroform | 2,600[#1] | | - | - | - | <0.008 | - | - | - | - | - | <0.008 | <1.6 | - | - | <0.16 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.008 | <0.008 | - |
| 1,1,1-trichloroethane | 57,000[#1] | | - | - | - | <0.007 | - | - | - | - | - | <0.007 | <1.4 | - | - | <0.14 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.007 | <0.007 | - |
| 1,1-dichloropropene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Carbon tetrachloride | 190[#1] | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| 1,2-dichloroethane | 21[#1] | | - | - | - | <0.005 | - | - | - | - | - | <0.005 | <1 | - | - | <0.1 | - | - | - | <0.002 | <0.002 | <0.002 | - | <0.005 | <0.005 | - |
| Benzene | 230[#2] | | - | - | <0.009 | <0.009 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.009 | <1.8 | <0.009 | <0.18 | <0.18 | - | <0.009 | <0.009 | <0.01 | <0.001 | <0.01 | <0.009 | <0.009 | <0.009 | <0.009 |
| Trichloroethene | 41[#3] | | - | - | - | <0.009 | - | - | - | - | - | <0.009 | <1.8 | - | - | <0.18 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.009 | <0.009 | - |
| 1,2-dichloropropane | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Dibromomethane | | | - | - | - | <0.009 | - | - | - | - | - | <0.009 | <1.8 | - | - | <0.18 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.009 | <0.009 | - |
| Bromodichloromethane | | | - | - | - | <0.007 | - | - | - | - | - | <0.007 | <1.4 | - | - | <0.14 | - | - | - | <0.01 | <0.01 | <0.01 | - | <0.007 | <0.007 | - |
| cis-1,3-dichloropropene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Toluene | 87,000[#1] | | - | - | <0.007 | <0.007 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.007 | <1.4 | <0.007 | <0.14 | <0.14 | - | <0.007 | <0.007 | <0.01 | <0.001 | <0.01 | <0.007 | <0.007 | <0.007 | <0.007 |
| trans-1,3-dichloropropene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| 1,1,2-trichloroethane | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Tetrachloroethene | 1,400[#3] | | - | - | - | <0.005 | - | - | - | - | - | <0.005 | <1 | - | - | <0.1 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.005 | <0.005 | - |
| 1,3-dichloropropane | | | - | - | - | <0.007 | - | - | - | - | - | <0.007 | <1.4 | - | - | <0.14 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.007 | <0.007 | - |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | BH1 | BH2_CRI | BH72401 | | BH72404 | BH72501 | | | BH72502 | BH72503 | CP72308 | | | CP72308A | CP72602 | CPES1 | | R507A | | | R72004 | R72005 | R72006 | |
| | | Depth Range (m) | 0.5 | 0.5 | 0.5 | 1 | 0.1-0.1 | 0.3 | 0.5 | 2.2 | 0.1-0.1 | 0.4-0.5 | 0.2-0.2 | 0.6-0.6 | 1.75-1.85 | 0.2 | 3.5-3.95 | 0.5 | 3.5 | 0-0.05 | 0.5-1 | 3.9-3.9 | 0.5 | 1 | 0.3 | 1 |
| | | Date | 21/08/2009 | 21/08/2009 | 16/09/2020 | 16/09/2020 | 13/11/2019 | 25/11/2019 | 25/11/2019 | 26/11/2019 | 14/11/2019 | 17/09/2020 | 13/10/2020 | 13/10/2020 | 14/10/2020 | 21/10/2020 | 02/10/2020 | 02/12/2020 | 03/12/2020 | 13/02/2017 | 13/02/2017 | 14/02/2017 | 26/08/2020 | 05/10/2020 | 08/10/2020 | 08/10/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | GIR_2009 | GIR_2009 | 580777 | 580777 | 18/08308 | 19-23362 | 19-24827 | 19-25097 | 18/08308 | 569585 | 574317 | 574317 | 574317 | 580701 | 580694 | 579931 | 579931 | GIR_2017 | GIR_2017 | GIR_2017 | 566438 | 580694 | 580779 | 580779 |
| Sum of PCE and TCE | | | - | - | - | <0.014 | - | - | - | - | - | <0.014 | <2.8 | - | - | <0.28 | - | - | - | <0.002 | <0.002 | <0.002 | - | <0.014 | <0.014 | - |
| Chlorodibromomethane | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.003 | <0.003 | <0.003 | - | <0.01 | <0.01 | - |
| 1,2-dibromoethane | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Chlorobenzene | 1.300[#1] | | - | - | - | <0.005 | - | - | - | - | - | <0.005 | <1 | - | - | <0.1 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.005 | <0.005 | - |
| 1,1,1,2-tetrachloroethane | 1,500[#1] | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Ethylbenzene | 17.000[#1] | | - | - | <0.004 | <0.004 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.004 | <0.8 | <0.004 | <0.08 | <0.08 | - | <0.004 | <0.004 | <0.01 | <0.001 | <0.01 | <0.004 | <0.004 | <0.004 | <0.004 |
| Xylene (m & p) | | | - | - | <0.01 | <0.01 | - | - | - | - | - | <0.01 | <2 | <0.01 | <0.2 | <0.2 | - | <0.01 | <0.01 | <0.01 | <0.001 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Xylene Total | 17.000[#1] | | - | - | <0.02 | <0.02 | 0.41 | <0.01 | <0.01 | <0.01 | 0.08 | <0.02 | <4 | <0.02 | <0.4 | <0.4 | - | <0.02 | <0.02 | <0.02 | <0.002 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| Xylene (o) | 17.000[#1] | | - | - | <0.01 | <0.01 | - | - | - | - | - | <0.01 | <2 | <0.01 | <0.2 | <0.2 | - | <0.01 | <0.01 | <0.01 | <0.001 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Total BTEX | | | - | - | <0.04 | <0.04 | - | - | - | - | - | <0.04 | <8 | <0.04 | <0.8 | <0.8 | - | <0.04 | <0.04 | <0.01 | <0.01 | - | <0.04 | <0.04 | <0.04 | <0.04 |
| Styrene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Bromoform | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Isopropylbenzene | | | - | - | - | <0.005 | - | - | - | - | - | <0.005 | <1 | - | - | <0.1 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.005 | <0.005 | - |
| 1,1,2,2-tetrachloroethane | 1.800[#1] | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| Bromobenzene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| 1,2,3-trichloropropane | | | - | - | - | <0.016 | - | - | - | - | - | <0.016 | <3.2 | - | - | <0.32 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.016 | <0.016 | - |
| n-propylbenzene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| 2-chlorotoluene | | | - | - | - | <0.009 | - | - | - | - | - | <0.009 | <1.8 | - | - | <0.18 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.009 | <0.009 | - |
| 1,3,5-trimethylbenzene | | | - | - | - | <0.008 | - | - | - | - | - | <0.008 | <1.6 | - | - | <0.16 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.008 | <0.008 | - |
| 4-chlorotoluene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| tert-butylbenzene | | | - | - | - | <0.014 | - | - | - | - | - | <0.014 | <2.8 | - | - | <0.28 | - | - | - | <0.002 | <0.002 | <0.002 | - | <0.014 | <0.014 | - |
| 1,2,4-trimethylbenzene | | | - | - | - | <0.009 | - | - | - | - | - | <0.009 | <1.8 | - | - | <0.18 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.009 | <0.009 | - |
| sec-butylbenzene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| p-isopropyltoluene | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| 1,3-dichlorobenzene | 390[#1] | | - | - | - | <0.008 | - | - | - | - | - | <0.008 | <0.5 | - | - | <0.16 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.008 | <0.008 | - |
| 1,4-dichlorobenzene | 36.000[#1] | | - | - | - | <0.005 | - | - | - | - | - | <0.005 | <0.5 | - | - | <0.1 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.005 | <0.005 | - |
| n-butylbenzene | | | - | - | - | <0.011 | - | - | - | - | - | <0.011 | <2.2 | - | - | <0.22 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.011 | <0.011 | - |
| 1,2-dichlorobenzene | 24.000[#1] | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <0.5 | - | - | <0.2 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.01 | - |
| 1,2-dibromo-3-chloropropan | | | - | - | - | <0.014 | - | - | - | - | - | <0.014 | <2.8 | - | - | <0.28 | - | - | - | <0.002 | <0.002 | <0.002 | - | <0.014 | <0.014 | - |
| 1,2,4-trichlorobenzene | 1,700[#1] | | - | - | - | <0.02 | - | - | - | - | - | <0.02 | <0.5 | - | - | <0.4 | - | - | - | <0.003 | <0.003 | <0.003 | - | <0.02 | <0.02 | - |
| Hexachlorobutadiene | 48[#1] | | - | - | - | <0.02 | - | - | - | - | - | <0.02 | <0.5 | - | - | <0.4 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.02 | <0.02 | - |
| 1,2,3-trichlorobenzene | 770[#1] | | - | - | - | <0.02 | - | - | - | - | - | <0.02 | <4 | - | - | <0.4 | - | - | - | <0.003 | <0.003 | <0.003 | - | <0.02 | <0.02 | - |
| 1,2-Dichloroethene | | | - | - | - | <0.016 | - | - | - | - | - | <0.016 | <3.2 | - | - | <0.32 | - | - | - | <0.002 | <0.002 | <0.002 | - | <0.016 | <0.016 | - |
| Trihalomethanes | | | - | - | - | <0.035 | - | - | - | - | - | <0.035 | <7 | - | - | <0.7 | - | - | - | <0.015 | <0.015 | <0.015 | - | <0.035 | <0.035 | - |
| VOC TICs | | | - | - | - | <0.05 | - | - | - | - | - | <0.05 | 16.4 | - | - | 3.59 | - | - | - | - | - | - | - | <0.05 | <0.05 | - |
| Carbon disulfide | 1.300[#1] | | - | - | - | <0.007 | - | - | - | - | - | <0.007 | <1.4 | - | - | <0.14 | - | - | - | <0.001 | <0.001 | <0.001 | - | <0.007 | <0.007 | - |
| Hexachlorobenzene | 30[#1] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.05 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Tert Amyl Methyl Ether | | | - | - | - | <0.01 | - | - | - | - | - | <0.01 | <2 | - | - | <0.2 | - | - | - | - | - | - | - | <0.01 | <0.01 | - |
| Trichlorobenzene (total) | | | - | - | - | <0.04 | - | - | - | - | - | <0.04 | <4.5 | - | - | <0.8 | - | - | - | <0.006 | <0.006 | <0.006 | - | <0.04 | <0.04 | - |
| PAH | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | 1.200[#1] | | 0.09 | 0.09 | <0.009 | <0.009 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.009 | 95.9 - 132 | 6.31 | 0.356 | 41.8 - 85 | <0.045 | <0.009 | <0.009 | <0.03 | <0.03 | <0.03 | <0.009 | <0.009 | <0.009 | <0.009 |
| Acenaphthylene | 29.000[#1] | | 0.25 | 0.09 | <0.012 | <0.012 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.1 - 0.0441 | 9.97 - 13.6 | 1.24 | 0.0568 | 11.9 - 12.2 | <0.06 | <0.012 | <0.012 | <0.01 | <0.01 | <0.01 | <0.012 | <0.012 | <0.012 | <0.012 |
| Acenaphthene | 29.000[#1] | | 0.17 | 0.09 | <0.008 | <0.008 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.1 - 0.0207 | 27 - 33.9 | 1.84 | 0.206 | 25 - 27.9 | 0.62 | <0.008 | <0.008 | <0.01 | <0.01 | <0.01 | <0.008 | <0.008 | <0.008 | <0.008 |
| Fluorene | 20,000[#1] | | 0.16 | 0.09 | <0.01 | <0.01 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.1 - 0.0206 | 50 - 60.5 | 4.22 | 0.349 | 43.3 - 46.3 | 1.11 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Phenanthrene | 6.200[#1] | | 2.51 | 0.13 | 0.0831 | <0.1 - 0.0595 | 0.05 | 0.05 | 0.06 | <0.03 | 0.04 | 0.193 - 0.278 | 212 - 281 | 18.7 | 1.45 | 177 - 191 | 8.62 | <0.015 | <0.015 | <0.03 | <0.03 | <0.03 | <0.015 | <0.015 | <0.015 | <0.015 |
| Anthracene | 150,000[#1] | | 1.01 | 0.09 | 0.0257 | <0.016 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.1 - 0.0995 | 56.2 - 66.4 | 5.1 | 0.335 | 49.1 - 52.5 | 2.33 | <0.016 | <0.016 | <0.02 | <0.02 | <0.02 | <0.016 | <0.016 | <0.016 | <0.016 |
| Fluoranthene | 6,300[#1] | | 6.01 | 0.51 | 0.222 | 0.173 - 0.19 | 0.12 | 0.12 | 0.19 | <0.03 | 0.09 | 0.554 - 0.812 | 161 - 226 | 14.4 | 1 | 164 - 169 | 9.28 | <0.017 | <0.017 | <0.08 | <0.08 | <0.08 | <0.017 | <0.017 | <0.017 | <0.017 |
| Pyrene | 15.000[#1] | | 4.94 | 0.42 | 0.196 | 0.169 - 0.184 | 0.11 | 0.1 | 0.19 | <0.03 | 0.09 | 0.617 - 0.808 | 124 - 170 | 11.1 | 0.783 | 137 - 145 | 7.24 | <0.015 | <0.015 | <0.07 | <0.07 | <0.07 | <0.015 | <0.015 | <0.015 | <0.015 |
| Benz(a)anthracene | 49[#1] | | 2.62 | 0.27 | 0.111 | 0.115 - 0.116 | 0.05 | 0.05 | 0.11 | <0.03 | 0.04 | 0.343 - 0.461 | **58.7 - 67.6** | 4.88 | 0.31 | **60.9 - 63.6** | 3.04 | <0.014 | <0.014 | <0.04 | <0.04 | <0.04 | <0.014 | <0.014 | <0.014 | <0.014 |
| Chrysene | 93[#1] | | 2.4 | 0.3 | 0.113 | <0.1 - 0.0968 | 0.07 | 0.06 | 0.16 | <0.03 | 0.05 | 0.408 - 0.447 | 51.5 - 58.6 | 4.35 | 0.263 | 50.8 - 61 | 2.57 | <0.01 | <0.01 | <0.06 | <0.06 | <0.06 | 0.0116 | <0.01 | <0.01 | <0.01 |
| Benzo(a) pyrene | 21[#2] | | 2.73 | 0.25 | 0.109 | <0.1 - 0.114 | 0.09 | 0.05 | 0.18 | <0.03 | 0.04 | 0.392 - 0.598 | **49.9 - 56.7** | 4.16 | 0.248 | **56.8 - 58** | 2.13 | <0.015 | <0.015 | <0.04 | <0.04 | <0.04 | <0.015 | <0.015 | <0.015 | <0.015 |
| Indeno(1,2,3-c,d)pyrene | 150[#1] | | 1.54 | 0.19 | 0.0946 | <0.1 - 0.0725 | 0.07 | 0.03 | 0.09 | <0.03 | 0.04 | 0.21 - 0.492 | 34.3 - 47.6 | 2.75 | 0.151 | 35.1 - 36.6 | 1.17 | <0.018 | <0.018 | <0.03 | <0.03 | <0.03 | <0.018 | <0.018 | <0.018 | <0.018 |
| Dibenz(a,h)anthracene | 1.1[#1] | | 0.42 | 0.09 | <0.023 | <0.023 | <0.03 | <0.03 | 0.04 | <0.03 | <0.03 | <0.1 - 0.0743 | **6.09 - 7.3** | 0.531 | <0.023 | **2.51 - 6.55** | 0.2 | <0.023 | <0.023 | <0.04 | <0.04 | <0.04 | <0.023 | <0.023 | <0.023 | <0.023 |
| Benzo(g,h,i)perylene | 1,400[#1] | | 1.75 | 0.23 | 0.0818 | <0.1 - 0.0788 | 0.06 | 0.03 | 0.11 | <0.03 | 0.03 | 0.232 - 0.49 | 27.4 - 31 | 2.42 | 0.14 | 30.5 - 31.3 | 1.1 | <0.024 | <0.024 | <0.05 | <0.05 | <0.05 | <0.024 | <0.024 | <0.024 | <0.024 |
| Benzo(b)fluoranthene | 13[#1] | | 2.92 | 0.33 | 0.144 | <0.1 - 0.161 | 0.11 | 0.07 | 0.23 | <0.03 | 0.06 | 0.276 - 0.694 | **49.5 - 61.1** | 3.94 | 0.294 | **46.9 - 69.7** | 2.95 | <0.015 | <0.015 | <0.05 | <0.05 | <0.05 | <0.015 | <0.015 | <0.015 | <0.015 |
| Benzo(k)fluoranthene | 370[#1] | | 1.34 | 0.18 | 0.0483 | <0.1 - 0.0661 | 0.05 | <0.03 | 0.07 | <0.03 | <0.03 | 0.245 - 0.339 | 26.9 - 39.3 | 1.45 | 0.133 | 26.1 - 43.2 | 1.11 | <0.014 | <0.014 | <0.07 | <0.07 | <0.07 | <0.014 | <0.014 | <0.014 | <0.014 |
| Benzo(b)&(k)fluoranthene | | | 4.26 | 0.51 | 0.1923 | 0.2271 | 0.16 | 0.1 | 0.3 | <0.06 | 0.09 | 1.033 | 100.4 | 5.39 | 0.427 | 112.9 | 4.06 | <0.029 | <0.029 | <0.12 | <0.12 | <0.12 | <0.029 | <0.029 | <0.029 | <0.029 |
| PAHs (sum of 4) | | | 7.55 | 0.93 | 0.3687 | 0.3784 | 0.29 | 0.16 | 0.5 | <0.12 | 0.16 | 2.015 | 179 | 10.56 | 0.718 | 180.8 | 6.33 | <0.071 | <0.071 | <0.2 | <0.2 | <0.2 | <0.071 | <0.071 | <0.071 | <0.071 |
| PAH 16 Total | | | - | - | 1.23 | 1.12 | 0.79 | 0.55 | 1.4 | <0.1 | 0.5 | 5.58 | 1,050 | 87.5 | 6.07 | 1,010 | 43.4 | <0.118 | <0.118 | <0.08 | <0.08 | <0.08 | <0.118 | <0.118 | <0.118 | <0.118 |
| PAH 17 Total | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.08 | <0.08 | - | - | - | - | - |
| benzo(g,h,i)perylene + inden | | | 3.29 | 0.42 | 0.1764 | 0.1513 | 0.13 | 0.06 | 0.2 | <0.06 | 0.07 | 0.982 | 78.6 | 5.17 | 0.291 | 67.9 | 2.27 | <0.042 | <0.042 | <0.08 | <0.08 | <0.08 | <0.042 | <0.042 | <0.042 | <0.042 |
| Benzo(a)pyrene (surrogate m | 4.4[#1] | | 2.73 | 0.25 | 0.109 | 0.114 | 0.09 | 0.05 | 0.18 | <0.03 | 0.04 | 0.598 | **56.7** | 4.16 | 0.248 | **58** | 2.13 | <0.015 | <0.015 | <0.04 | <0.04 | <0.04 | <0.015 | <0.015 | <0.015 | <0.015 |
| SVOC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC TICs | | | - | - | - | <1 | - | - | - | - | - | <1 | 340 | - | - | 234 | - | - | - | - | - | - | - | <1 | <1 | - |
| Coronene | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-chlorophenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 2-methylphenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | 0.949 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 2-nitrophenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 2,4-dichlorophenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 2,4-dimethylphenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | 3.01 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 2,4,5-trichlorophenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 2,4,6-trichlorophenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 4-chloro-3-methylphenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 4-methylphenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | 1.34 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 4-nitrophenol | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Pentachlorophenol | 110[#1] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Phenol | 440[#1] | | - | - | <0.01 | <0.01 | <0.3 | 1 | 0.6 | <0.3 | 0.3 | <0.01 | <0.5 - 0.123 | <0.01 | <0.01 | <0.5 | <0.01 | <0.01 | <0.01 | <0.1 | <0.1 | <0.1 | <0.01 | <0.01 | <0.01 | <0.01 |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | BH1 | BH2_CRI | BH72401 | | BH72404 | BH72501 | | | BH72502 | BH72503 | CP72308 | | | CP72308A | CP72602 | CPES1 | | R507A | | | R72004 | R72005 | R72006 | |
| | | Depth Range (m) | 0.5 | 0.5 | 0.5 | 1 | 0.1-0.1 | 0.3 | 0.5 | 2.2 | 0.1-0.1 | 0.4-0.5 | 0.2-0.2 | 0.6-0.6 | 1.75-1.85 | 0.2 | 3.5-3.95 | 0.5 | 3.5 | 0-0.05 | 0.5-1 | 3.9-3.9 | 0.5 | 1 | 0.3 | 1 |
| | | Date | 21/08/2009 | 21/08/2009 | 16/09/2020 | 16/09/2020 | 13/11/2019 | 25/11/2019 | 25/11/2019 | 26/11/2019 | 14/11/2019 | 17/09/2020 | 13/10/2020 | 13/10/2020 | 14/10/2020 | 21/10/2020 | 02/10/2020 | 02/12/2020 | 03/12/2020 | 13/02/2017 | 13/02/2017 | 14/02/2017 | 26/08/2020 | 05/10/2020 | 08/10/2020 | 08/10/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | GIR_2009 | GIR_2009 | 580777 | 580777 | 18/08308 | 19-23362 | 19-24827 | 19-25097 | 18/08308 | 569585 | 574317 | 574317 | 574317 | 580701 | 580694 | 579931 | 579931 | GIR_2017 | GIR_2017 | GIR_2017 | 566438 | 580694 | 580779 | 580779 |
| 2-chloronaphthalene | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 2-methylnaphthalene | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | 41.5 | - | - | 24 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Bis(2-ethylhexyl) phthalate | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Butyl benzyl phthalate | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Di-n-butyl phthalate | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Di-n-octyl phthalate | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Diethylphthalate | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Dimethyl phthalate | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 2-nitroaniline | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | - | - | - | - | <0.1 | <0.1 | - |
| 3-nitroaniline | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | - | - | - | - | <0.1 | <0.1 | - |
| 4-bromophenyl phenyl ether | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | - | - | - | - | <0.1 | <0.1 | - |
| 4-chloroaniline | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | - | - | - | - | <0.1 | <0.1 | - |
| 4-chlorophenyl phenyl ether | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | - | - | - | - | <0.1 | <0.1 | - |
| 4-nitroaniline | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | - | - | - | - | <0.1 | <0.1 | - |
| Azobenzene | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | - | - | - | - | <0.1 | <0.1 | - |
| Bis(2-chloroethoxy) methane | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Bis(2-chloroethyl)ether | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Carbazole | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | 24 | - | - | 11.2 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Dibenzofuran | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | 43.8 | - | - | 30.6 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Hexachlorocyclopentadiene | [redacted] | | - | - | - | <0.2 | - | - | - | - | - | <0.2 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.5 | <0.2 | - |
| Hexachloroethane | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Isophorone | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| N-nitrosodi-n-propylamine | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Bis(2-chloroisopropyl) ether | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | - | - |
| Perylene | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | - | - |
| Bis(2-chloroisopropyl)ether | [redacted] | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | - | - | - | - | <0.1 | <0.1 | - |
| Phenols | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | - | - | - | - |
| PCBs | [redacted] | | | | | | | | | | | | | | | | | | | | | | | | | |
| PCB 118 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 28 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 52 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 101 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 138 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 153 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 180 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCBs (Sum of total) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.007 | <0.007 | - | - | - | - | - |
| Total PCB 7 Congeners | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Herbicides and Pesticides | [redacted] | | | | | | | | | | | | | | | | | | | | | | | | | |
| Permethrin I | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Quintozene; (PCNB) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Baythroid | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | - | - |
| gamma-HCH | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Aldrin | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| a-BHC | 47[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| b-BHC | 15[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Chlorothalonil | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Chlordane (cis) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Dieldrin | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Endosulfan I | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Endosulfan II | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Endosulfan sulphate | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Endrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| g-BHC (Lindane) | 14[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | - |
| Heptachlor | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Heptachlor epoxide | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Isodrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| o,p''-DDE | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| o,p''-Methoxychlor | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| o,p-DDD | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| 4,4-DDE | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| DDT | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | - |
| Methoxychlor | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| DDD | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Pendimethalin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Permethrin II | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Tecnazene | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Telodrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Chlordane (trans) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Triadimefon | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Triallate | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Trifluralin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Aldrin + Dieldrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - |
| Azinphos Ethyl | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Azinophos methyl | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Carbophenothion | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Chlorfenvinphos | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Chlorpyrifos | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | BH1 | BH2_CRI | BH72401 | | BH72404 | BH72501 | | | BH72502 | BH72503 | CP72308 | | | CP72308A | CP72602 | CPES1 | | R507A | | | R72004 | R72005 | R72006 | |
| | | Depth Range (m) | 0.5 | 0.5 | 0.5 | 1 | 0.1-0.1 | 0.3 | 0.5 | 2.2 | 0.1-0.1 | 0.4-0.5 | 0.2-0.2 | 0.6-0.6 | 1.75-1.85 | 0.2 | 3.5-3.95 | 0.5 | 3.5 | 0-0.05 | 0.5-1 | 3.9-3.9 | 0.5 | 1 | 0.3 | 1 |
| | | Date | 21/08/2009 | 21/08/2009 | 16/09/2020 | 16/09/2020 | 13/11/2019 | 25/11/2019 | 25/11/2019 | 26/11/2019 | 14/11/2019 | 17/09/2020 | 13/10/2020 | 13/10/2020 | 14/10/2020 | 21/10/2020 | 02/10/2020 | 02/12/2020 | 03/12/2020 | 13/02/2017 | 13/02/2017 | 14/02/2017 | 26/08/2020 | 05/10/2020 | 08/10/2020 | 08/10/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | GIR_2009 | GIR_2009 | 580777 | 580777 | 18/08308 | 19-23362 | 19-24827 | 19-25097 | 18/08308 | 569585 | 574317 | 574317 | 574317 | 580701 | 580694 | 579931 | 579931 | GIR_2017 | GIR_2017 | GIR_2017 | 566438 | 580694 | 580779 | 580779 |
| Chlorpyrifos-methyl | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Diazinon | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Dichlorvos | 26[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Dimethoate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Ethion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Parathion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Etrimphos | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Fenitrothion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Fenthion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Malathion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Methyl parathion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Mevinphos (Phosdrin) | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Phosalone | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Pirimiphos-methyl | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Propetamphos | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Triazophos | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Disulfoton | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Phorate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | - |
| Cyhalothrin/Karate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | - | - |
| Cypermethrins(total) | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | - | - |
| Deltamethrin | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | - | - |
| Fenvalerate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | - | - |
| Permethrin | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | - | - |
| Aldrin+Dieldrin+Endrin+Isodr | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | - | - | <0.15 | - |
| Atrazine | 2,300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Simazine | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | <0.05 | - |
| Ametryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Atraton | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Prometon | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Prometryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Propazine | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Simetryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Terbutryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| p,p-DDT | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| o,p DDT | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Terbutylazine | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | <0.05 | - | - | - | - |
| Explosives | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| 2,6-dinitrotoluene | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Nitrobenzene | | | - | - | - | <0.1 | - | - | - | - | - | <0.1 | <0.5 | - | - | <1 | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - |
| Metals | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | | | - | - | <0.6 | <0.6 | 4.7 | 1.6 | <1 | <1 | 2.8 | <0.6 | 1.23 | 1.16 | <0.6 | <0.6 | <0.6 | <0.6 | 1.1 | <0.01 | <0.01 | - | <0.6 | <0.6 | <0.6 | 1.56 |
| Arsenic | 170[#2] | | 2.9 | 6.8 | <0.6 | <0.6 | 3.4 | 4.5 | 4.1 | 4.9 | 1.6 | 1.33 | 1.47 | <0.6 | 7.9 | 2.99 | 7.19 | 2.97 | <0.6 | <1 | <1 | <1 | 4.42 | 0.625 | <0.6 | <0.6 |
| Barium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 45 | 9 | 13 | - | - | - | - |
| Beryllium | 63[#1] | | - | - | 0.0819 | 0.0831 | <0.2 | 0.3 | 0.3 | <0.2 | <0.2 | 0.167 | 0.231 | 0.0707 | 1.08 | 0.737 | 0.201 | 0.391 | 0.0525 | <1 | <1 | <1 | 0.626 | 0.162 | 0.104 | 0.0945 |
| Boron | 46,000[#1] | | - | - | 2.57 | 3.01 | - | - | - | - | - | 4.44 | 2.91 | 7.47 | 16.5 | 3.37 | 3.93 | 10.4 | 2.39 | - | - | - | 7.74 | 2.91 | 2.64 | 3.71 |
| Cadmium | 880[#2] | | 0.52 | 0.18 | 0.309 | 0.271 | 0.4 | 0.3 | 0.3 | 0.5 | 0.6 | 0.209 | 0.782 | 0.569 | 0.569 | <0.02 | 1.18 | 0.147 | 0.206 | 0.9 | <0.5 | <0.5 | 0.734 | 0.351 | 0.423 | 0.547 |
| Calcium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chromium (III+VI) | Use either CrIII or CrVI | | 10.8 | 14.3 | 1.74 | 2.05 | - | - | - | - | - | 3.52 | 11.4 | 1.49 | 33.7 | 3.13 | 2.47 | 15.3 | 2.3 | 11 | 2 | 2 | 12.3 | 3.42 | 2.62 | 2.06 |
| Copper | 44,000[#1] | | 3.3 | 4.6 | 1.53 | 2.45 | 8.2 | 6.7 | 6.7 | 8.9 | 5.4 | 1.83 | 11.8 | 2.42 | 14.5 | 26 | 4.87 | 4.34 | 1.74 | 8 | 1 | <1 | 5.86 | 1.67 | 1.74 | 2.45 |
| Iron | | | - | - | 1,080 | 1,300 | 4,800 | 7,100 | 7,900 | 3,100 | 2,200 | 4,060 | 11,600 | 1,520 | 23,500 | 41,200 | 14,600 | 15,000 | <1,000 | - | - | - | 12,200 | 2,930 | 1,430 | <1,000 |
| Lead | 1,300[#2] | | 14.5 | 8.5 | 1.75 | 1.56 | 33 | 57 | 20 | 1.3 | 27 | 3.02 | 12.2 | 6.72 | 24.5 | 14.8 | 147 | 8.39 | <0.7 | 20 | 1 | <1 | 12.2 | 1.45 | 1.19 | 2.53 |
| Magnesium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Manganese | | | - | - | 232 | 271 | 280 | 240 | 240 | 300 | 140 | 237 | 217 | 283 | 85.7 | 691 | 691 | 312 | 186 | 538 | 231 | 233 | 895 | 261 | 217 | 185 |
| Mercury | 240[#1] | | 0.1 | 0.1 | <0.14 | <0.14 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | 0.32 | 0.6 | 1.03 | <0.14 | <0.14 | <0.14 | <0.14 |
| Molybdenum | | | - | - | 0.111 | 0.262 | <0.4 | <0.4 | <0.4 | 0.7 | <0.4 | <0.1 | 0.195 | 0.139 | 0.152 | 0.678 | 0.229 | 0.265 | <0.1 | <1 | <1 | <1 | <0.1 | <0.1 | 0.118 | 0.144 |
| Nickel | 800[#1] | | 9 | 6.9 | 3.24 | 4.39 | 5.9 | 6.5 | 6.6 | 5.2 | 2.8 | 4.14 | 11.2 | 2.17 | 31.6 | 32 | 5.61 | 9.62 | 6.29 | 9 | 2 | 2 | 11.6 | 3.88 | 2.09 | 1.75 |
| Phosphorus | | | - | - | 547 | 651 | 450 | 1,100 | 490 | 690 | 160 | 791 | 509 | 529 | 1,580 | 1,680 | 278 | 790 | 504 | - | - | - | 1,170 | 542 | 527 | 414 |
| Selenium | 1,800[#1] | | 0.5 | 0.5 | <1 | <1 | <0.5 | <0.5 | <0.5 | 8.1 | <0.5 | <1 | <1 | <1 | 4.08 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Sodium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Vanadium | 5,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 15 | 3 | 3 | - | - | - | - |
| Zinc | 170,000[#1] | | 49.9 | 55.5 | 18.5 | 17.3 | 110 | 33 | 34 | 18 | 39 | 17.7 | 73.2 | 34.1 | 43.4 | 85.9 | 277 | 27.6 | 15.6 | 40 | 11 | 11 | 50 | 18.5 | 15.7 | 24.7 |
| Boron (Water Soluble) | 46,000[#1] | | - | - | - | - | 0.4 | 0.5 | 0.5 | <0.2 | 0.4 | - | - | - | - | - | - | - | - | 1.9 | 2.1 | <1 | - | - | - | - |
| Chromium (hexavalent) | 250[#2] | | - | - | <0.6 | <0.6 | <1 | <1 | <1 | <1 | <1 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <1 | <1 | <1 | <0.6 | <0.6 | <0.6 | <0.6 |
| Chromium (Trivalent) | 33,000[#1] | | - | - | 1.74 | 2.05 | 5.6 | 8 | 8.7 | 10 | 4.1 | 3.52 | 11.4 | 1.49 | 33.7 | 3.13 | 2.47 | 15.3 | 2.37 | 11 | 2 | 2 | 12.3 | 3.42 | 2.62 | 2.06 |
| Inorganics | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sulphur | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <5 | <5 | <5 | - | - | - | - |
| Cyanide (Free) | | | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <1 | <1 | <1 | - | - | - | - |
| Cyanide Total | | | - | - | <1 | <1 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <1 | 1.05 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Fluoride | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | <1 | - | - | - | - | - |
| Sulphate | | | 48 | 36 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 101 | <10 | - | - | - | - | - |
| Chloride | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | - | - | - | - | - |
| Ammoniacal Nitrogen as N | | | - | - | <12 | <12 | 2.9 | 2.3 | 2 | 1.7 | 4.4 | <12 | 24.7 | 22.9 | 149 | 12.2 | <12 | 154 | <12 | - | - | - | <12 | <12 | <12 | <12 |
| Easily Liberated Sulphide (Mo | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <15 | <15 | <15 | - | - | - | - |
| Soluble Sulphate 2:1 extract a | | | - | - | - | - | 0.078 | 0.052 | 0.065 | 0.021 | 0.014 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sulphate (soluble) | | | - | - | 0.0678 | 0.0065 | - | - | - | - | - | 0.0161 | 0.15 | 0.266 | 0.0836 | 0.0065 | 0.0128 | 0.0068 | 0.0239 | <0.01 | <0.01 | <0.01 | 0.0394 | 0.013 | 0.0969 | 1.28 |
| TDS | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 496 | 357 | - | - | - | - | - |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | **Monitoring Zone** | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Location** | BH1 | BH2_CRI | BH72401 | | BH72404 | BH72501 | | | BH72502 | BH72503 | CP72308 | | | CP72308A | CP72602 | CPES1 | | R507A | | | R72004 | R72005 | R72006 | |
| | | **Depth Range (m)** | 0.5 | 0.5 | 0.5 | 1 | 0.1-0.1 | 0.3 | 0.5 | 2.2 | 0.1-0.1 | 0.4-0.5 | 0.2-0.2 | 0.6-0.6 | 1.75-1.85 | 0.2 | 3.5-3.95 | 0.5 | 3.5 | 0-0.05 | 0.5-1 | 3.9-3.9 | 0.5 | 1 | 0.3 | 1 |
| | | **Date** | 21/08/2009 | 21/08/2009 | 16/09/2020 | 16/09/2020 | 13/11/2019 | 25/11/2019 | 25/11/2019 | 26/11/2019 | 14/11/2019 | 17/09/2020 | 13/10/2020 | 13/10/2020 | 14/10/2020 | 21/10/2020 | 02/10/2020 | 02/12/2020 | 03/12/2020 | 13/02/2017 | 13/02/2017 | 14/02/2017 | 26/08/2020 | 05/10/2020 | 08/10/2020 | 08/10/2020 |
| | | **Sample Type** | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | **Lab Report Number** | GIR_2009 | GIR_2009 | 580777 | 580777 | 18/08308 | 19-23362 | 19-24827 | 19-25097 | 18/08308 | 569585 | 574317 | 574317 | 574317 | 580701 | 580694 | 579931 | 579931 | GIR_2017 | GIR_2017 | GIR_2017 | 566438 | 580694 | 580779 | 580779 |
| Other | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dry Matter (DM) content | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74.3 | 80.2 | - | - | - | - | - |
| Loss on ignition | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.8 | <0.5 | - | - | - | - | - |
| ANC at pH 4 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.5 | 16.2 | - | - | - | - | - |
| ANC pH_6 dry soil | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.19 | 0.35 | - | - | - | - | - |
| Organic Matter | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.7 | 0.4 | 0.1 | - | - | - | - |
| Moisture | | | 13.7 | 7 | 6.4 | 13 | - | - | - | - | - | 13 | 2.2 | 20 | 72 | 1.1 | 1.3 | 10 | 22 | - | - | - | 13 | 20 | 7 | 11 |
| % Stones >10mm | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.3 | <0.1 | <0.1 | - | - | - | - |
| Fraction Organic Carbon | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.37 | 0.21 | 0.08 | - | - | - | - |
| pH (Lab) | | | - | - | 9.23 | 9.18 | - | - | - | - | - | 8.87 | 8.69 | 8.79 | 7.9 | 9.07 | 8.97 | 8.51 | 9.14 | 7.97 | 8.45 | 9.02 | - | 8.72 | 8.55 | 8.81 |
| TOC | | | - | - | <0.2 | <0.2 | 1.3 | 0.7 | 0.6 | <0.1 | 0.7 | <0.2 | 0.507 | <0.2 | 13.5 | 0.847 | <0.2 | 0.295 | <0.2 | - | - | - | 0.961 | 0.203 | 0.276 | <0.2 |
| Asbestos | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asbestos Identification | | | Not Detected | - | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | - | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | - | - | Not Detected | Not Detected | Not Detected | - | - | - | - |
| Field | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | | | 8.4 | 8.4 | - | - | 8 | 9.5 | 10.4 | 8.7 | 8 | - | - | - | - | - | - | - | - | 7.98 | 7.26 | - | - | - | - | - |
| Electrical Conductivity | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 254 | 214 | - | - | - | - | - |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
GAC: Generic Assessment Criteria
S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria available

**Key**
XXX Exceedance of Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | R72101 | R72102 | | SA505 | | | SA506 | | STP72201 | STP72202 | STP72202A | | STP72501 | | STP72502 | | STP72601 | STPES1 | STPES2 | | STPES3 | STPES4 | |
| | | Depth Range (m) | 0.25 | 0.3 | 1 | 0-0.15 | 0.8-0.8 | 1-1 | 0-0.25 | 0.6-0.6 | 0.3-0.35 | 0.5 | 0.3 | 1 | 0.1 | 0.3 | 0.1 | 0.3 | 0.5 | 0.5 | 0.3 | 1 | 0.65 | 0.3 | 1 |
| | | Date | 03/09/2020 | 01/09/2020 | 01/09/2020 | 28/02/2017 | 28/02/2017 | 28/02/2017 | 01/03/2017 | 01/03/2017 | 07/10/2020 | 05/10/2020 | 02/10/2020 | 02/10/2020 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 06/10/2020 | 07/10/2020 | 08/10/2020 | 08/10/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | 568519 | 567147 | 567147 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 575579 | 574528 | 573946 | 573946 | 19-24827 | 19-25097 | 19-25097 | 19-25097 | 575579 | 575579 | 575579 | 575579 | 575579 | 578687 | 578687 |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | | | | |
| >C08-C10 | 7,200[#4] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C10-C12 | 9,200[#5] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C12-C16 | 10,000[#6] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C16-C21 | 7,600[#7] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C21-C35 | 7,800[#8] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GRO >C5-C10 | 7,200[#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 |
| GRO >C5-C12 | 7,600[#7] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| EPH >C10-C40 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C6 Aliphatics | 95,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >C6-C8 Aliphatics | 150,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.0157 | <0.01 | <0.01 | <0.01 |
| >C8-C10 Aliphatics | 14,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.0194 | <0.01 | <0.01 | <0.01 |
| >C10-C12 Aliphatics | 21,000[#1] | | <1 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <1 | <1 | <1.5 | <1.5 | <1.5 | <1.5 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| >C12-C16 Aliphatics | 25,000[#1] | | <1 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 2.21 | <1 | <1 | <1 | <1.2 | <1.2 | <1.2 | <1.2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| >C16-C21 Aliphatics | 7,600[#7] | | <1 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 1.97 | <1 | <1 | <1 | <1.5 | <1.5 | <1.5 | <1.5 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| >C16-C35 Aliphatics | 450,000[#1] | | <2 | 10.26 | <2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 28.37 | 2.85 | 8.96 | <2 | <4.9 | <4.9 | <4.9 | <4.9 | 2.5 | 12.3 | 6.74 | 4.07 | 12.2 | 7.26 | 2.13 |
| >C21-C35 Aliphatics | 7,800[#8] | | <1 | 9.26 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 26.4 | 1.85 | 7.96 | <1 | <3.4 | <3.4 | <3.4 | <3.4 | 1.5 | 11.3 | 5.74 | 3.07 | 11.2 | 6.26 | 1.13 |
| >C35-C44 Aliphatics | 450,000[#1] | | <1 | <1 | <1 | - | - | - | - | - | <1 | <1 | <1 | <1 | - | - | - | - | <1 | <1 | <1 | 22.1 | <1 | <1 | <1 |
| >C5-C35 Aliphatics | | | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - |
| >C6-C7 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - |
| >C7-C8 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - |
| >C8 -C10 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - |
| >EC5-EC7 Aromatics | 76,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >EC7-EC8 Aromatics | 87,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| >EC8-EC10 Aromatics | 7,200[#1] | | <0.01 | <0.01 | <0.01 | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | 0.0121 | <0.01 | <0.01 | <0.01 |
| >EC8-EC9 Aromatics | | | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC9-EC10 Aromatics | | | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC10-EC12 Aromatics | 9,200[#1] | | <1 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <1 | <1 | <0.9 | <0.9 | <0.9 | <0.9 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| >EC12-EC16 Aromatics | 10,000[#1] | | <1 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 1.32 | <1 | <1 | <1 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| >EC16-EC21 Aromatics | 7,600[#1] | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | <0.6 | <0.6 | <0.6 | <0.6 | - | - | - | - | - | - | - |
| >EC21-EC35 Aromatics | 7,800[#1] | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | <1.4 | <1.4 | <1.4 | <1.4 | - | - | - | - | - | - | - |
| >EC35-EC44 Aromatics | 7,800[#1] | | <1 | <1 | <1 | - | - | - | - | - | 5.43 | <1 | <1 | <1 | - | - | - | - | <1 | 7.65 | 8.29 | 46.7 | 8.28 | 7.42 | 2.08 |
| >C5-C35 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - |
| >C5-C35 Aliphatics & Aromat | | | - | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - |
| Gasoline Range Organics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mineral Oil (C10-C40) | | | - | - | - | <10 | - | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| mineral oil | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 357 | - | - | - |
| Total Aliphatics | | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aromatics | | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aromatics > EC16-EC21 | 7,600[#1] | | <1 | <1 | <1 | - | - | - | - | - | 3.38 | <1 | <1 | <1 | - | - | - | - | <1 | 5.8 | 4.36 | 8 | 7.64 | 6.64 | 4.11 |
| Aromatics > EC21-EC35 | 7,800[#1] | | <1 | 3.1 | <1 | - | - | - | - | - | 57 | 1.2 | 4.53 | <1 | - | - | - | - | 1.66 | 38.7 | 28.8 | 103 | 49.2 | 37.2 | 17.3 |
| Aromatics > EC40-EC44 | 7,800[#9] | | <1 | <1 | <1 | - | - | - | - | - | <1 | <1 | <1 | <1 | - | - | - | - | <1 | 1.61 | <1 | 15 | 1.24 | <1 | <1 |
| TPH (Ali & Aro) | | | <10 | 14.1 | <10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 98.1 | <10 | 14 | <10 | - | - | - | - | <10 | 64.9 | 47.6 | 184 | 77.4 | 58.8 | 24.9 |
| Total Aliphatics >C10-C44 | | | <5 | 9.93 | <5 | - | - | - | - | - | 31 | <5 | 8.41 | <5 | - | - | - | - | <5 | 12.5 | 5.91 | 25.3 | 11.9 | 7.27 | <5 |
| Total Aromatics > EC10-EC44 | | | <5 | <5 | <5 | - | - | - | - | - | 67.1 | <5 | 5.61 | <5 | - | - | - | - | <5 | 52.4 | 41.7 | 158 | 65.5 | 51.5 | 23.6 |
| VOC | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,3,5-Trichlorobenzene | 380[#1] | | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dichlorodifluoromethane | | | <0.006 | <0.006 | <0.006 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.006 | <0.12 | - | - | - | - | - | - | <0.12 | <0.12 | <0.006 | - | - | <0.006 |
| MTBE | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.2 | <0.01 | <0.2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.2 | <0.2 | <0.01 | <0.2 | <0.01 | <0.01 |
| Chloromethane | | | <0.007 | <0.007 | <0.007 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.007 | <0.14 | - | - | - | - | - | - | <0.14 | <0.14 | <0.007 | - | - | <0.007 |
| Vinyl chloride | 18[#3] | | <0.006 | <0.006 | <0.006 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.006 | <0.12 | - | - | - | - | - | - | <0.12 | <0.12 | <0.006 | - | - | <0.006 |
| Bromomethane | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Chloroethane | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Trichlorofluoromethane | | | <0.006 | <0.006 | <0.006 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.006 | <0.12 | - | - | - | - | - | - | <0.12 | <0.12 | <0.006 | - | - | <0.006 |
| 1,1-dichloroethene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Dichloromethane | | | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | - | 0.0229 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | 0.0273 |
| trans-1,2-dichloroethene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| 1,1-dichloroethane | | | <0.008 | <0.008 | <0.008 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.008 | <0.16 | - | - | - | - | - | - | <0.16 | <0.16 | <0.008 | - | - | <0.008 |
| cis-1,2-dichloroethene | | | <0.006 | <0.006 | <0.006 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.006 | <0.12 | - | - | - | - | - | - | <0.12 | <0.12 | <0.006 | - | - | <0.006 |
| 2,2-dichloropropane | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Bromochloromethane | | | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Chloroform | 2,600[#1] | | <0.008 | <0.008 | <0.008 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.008 | <0.16 | - | - | - | - | - | - | <0.16 | <0.16 | <0.008 | - | - | <0.008 |
| 1,1,1-trichloroethane | 57,000[#1] | | <0.007 | <0.007 | <0.007 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.007 | <0.14 | - | - | - | - | - | - | <0.14 | <0.14 | <0.007 | - | - | <0.007 |
| 1,1-dichloropropene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Carbon tetrachloride | 190[#1] | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| 1,2-dichloroethane | 21[#1] | | <0.005 | <0.005 | <0.005 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.005 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | <0.005 | - | - | <0.005 |
| Benzene | 230[#2] | | <0.009 | <0.009 | <0.009 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.18 | <0.009 | <0.18 | <0.009 | <0.01 | <0.01 | <0.01 | <0.009 | <0.18 | <0.18 | <0.009 | <0.18 | <0.009 | <0.009 | |
| Trichloroethene | 41[#3] | | <0.009 | <0.009 | <0.009 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.009 | <0.18 | - | - | - | - | - | - | <0.18 | <0.18 | <0.009 | - | - | <0.009 |
| 1,2-dichloropropane | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Dibromomethane | | | <0.009 | <0.009 | <0.009 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.009 | <0.18 | - | - | - | - | - | - | <0.18 | <0.18 | <0.009 | - | - | <0.009 |
| Bromodichloromethane | | | <0.007 | <0.007 | <0.007 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.007 | <0.14 | - | - | - | - | - | - | <0.14 | <0.14 | <0.007 | - | - | <0.007 |
| cis-1,3-dichloropropene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Toluene | 87,000[#1] | | <0.007 | <0.007 | <0.007 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.14 | <0.007 | <0.14 | <0.007 | <0.01 | <0.01 | <0.01 | <0.007 | <0.14 | <0.14 | <0.007 | <0.14 | <0.007 | <0.007 | |
| trans-1,3-dichloropropene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| 1,1,2-trichloroethane | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Tetrachloroethene | 1,400[#3] | | <0.005 | <0.005 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.005 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | <0.005 | - | - | <0.005 |
| 1,3-dichloropropane | | | <0.007 | <0.007 | <0.007 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.007 | <0.14 | - | - | - | - | - | - | <0.14 | <0.14 | <0.007 | - | - | <0.007 |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_4 | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | R72101 | R72102 | | SA505 | | | SA506 | | STP72201 | STP72202 | STP72202A | | STP72501 | | STP72502 | | STP72601 | STPES1 | STPES2 | | STPES3 | STPES4 | |
| | | Depth Range (m) | 0.25 | 0.3 | 1 | 0-0.15 | 0.8-0.8 | 1-1 | 0-0.25 | 0.6-0.6 | 0.3-0.35 | 0.5 | 0.3 | 1 | 0.1 | 0.3 | 0.1 | 0.3 | 0.5 | 0.5 | 0.3 | 1 | 0.65 | 0.3 | 1 |
| | | Date | 03/09/2020 | 01/09/2020 | 01/09/2020 | 28/02/2017 | 28/02/2017 | 28/02/2017 | 01/03/2017 | 01/03/2017 | 07/10/2020 | 05/10/2020 | 02/10/2020 | 02/10/2020 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 06/10/2020 | 07/10/2020 | 08/10/2020 | 08/10/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | 568519 | 567147 | 567147 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 575579 | 574528 | 573946 | 573946 | 19-24827 | 19-25097 | 19-25097 | 19-25097 | 575579 | 575579 | 575579 | 575579 | 575579 | 578687 | 578687 |
| Sum of PCE and TCE | | | <0.014 | <0.014 | <0.014 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.014 | <0.28 | - | - | - | - | - | - | <0.28 | <0.28 | <0.014 | - | - | <0.014 |
| Chlorodibromomethane | | | <0.01 | <0.01 | <0.01 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| 1,2-dibromoethane | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Chlorobenzene | 1.300[#1] | | <0.005 | <0.005 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.005 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | <0.005 | - | - | <0.005 |
| 1,1,1,2-tetrachloroethane | 1,500[#1] | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Ethylbenzene | 17.000[#1] | | <0.004 | <0.004 | <0.004 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.08 | <0.004 | <0.08 | <0.004 | <0.01 | <0.01 | <0.01 | <0.01 | <0.004 | <0.08 | <0.08 | <0.004 | <0.08 | <0.004 | <0.004 |
| Xylene (m & p) | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.2 | <0.01 | <0.2 | <0.01 | - | - | - | - | <0.01 | <0.2 | <0.2 | <0.01 | <0.2 | <0.01 | <0.01 |
| Xylene Total | 17.000[#1] | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.4 | <0.02 | <0.4 | <0.02 | <0.01 | <0.01 | <0.01 | <0.01 | <0.02 | <0.4 | <0.4 | <0.02 | <0.4 | <0.02 | <0.02 |
| Xylene (o) | 17.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.2 | <0.01 | <0.2 | <0.01 | - | - | - | - | <0.01 | <0.2 | <0.2 | <0.01 | <0.2 | <0.01 | <0.01 |
| Total BTEX | | | <0.04 | <0.04 | <0.04 | <0.01 | - | <0.01 | <0.01 | - | <0.8 | <0.04 | <0.8 | <0.04 | - | - | - | - | <0.04 | <0.8 | <0.8 | <0.04 | <0.8 | <0.04 | <0.04 |
| Styrene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Bromoform | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Isopropylbenzene | | | <0.005 | <0.005 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.005 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | <0.005 | - | - | <0.005 |
| 1,1,2,2-tetrachloroethane | 1.800[#1] | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Bromobenzene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| 1,2,3-trichloropropane | | | <0.016 | <0.016 | <0.016 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.016 | <0.32 | - | - | - | - | - | - | <0.32 | <0.32 | <0.016 | - | - | <0.016 |
| n-propylbenzene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| 2-chlorotoluene | | | <0.009 | <0.009 | <0.009 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.009 | <0.18 | - | - | - | - | - | - | <0.18 | <0.18 | <0.009 | - | - | <0.009 |
| 1,3,5-trimethylbenzene | | | <0.008 | <0.008 | <0.008 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.008 | <0.16 | - | - | - | - | - | - | <0.16 | <0.16 | <0.008 | - | - | <0.008 |
| 4-chlorotoluene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| tert-butylbenzene | | | <0.014 | <0.014 | <0.014 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.014 | <0.28 | - | - | - | - | - | - | <0.28 | <0.28 | <0.014 | - | - | <0.014 |
| 1,2,4-trimethylbenzene | | | <0.009 | <0.009 | <0.009 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.009 | <0.18 | - | - | - | - | - | - | <0.18 | <0.18 | <0.009 | - | - | <0.009 |
| sec-butylbenzene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| p-isopropyltoluene | | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| 1,3-dichlorobenzene | 390[#1] | | <0.008 | <0.008 | <0.008 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.008 | <0.1 | - | - | - | - | - | - | <0.16 | <0.16 | <0.008 | - | - | <0.008 |
| 1,4-dichlorobenzene | 36.000[#1] | | <0.005 | <0.005 | <0.005 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.005 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | <0.005 | - | - | <0.005 |
| n-butylbenzene | | | <0.011 | <0.011 | <0.011 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.011 | <0.22 | - | - | - | - | - | - | <0.22 | <0.22 | <0.011 | - | - | <0.011 |
| 1,2-dichlorobenzene | 24.000[#1] | | <0.01 | <0.01 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.01 | <0.1 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| 1,2-dibromo-3-chloropropan | | | <0.014 | <0.014 | <0.014 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.014 | <0.28 | - | - | - | - | - | - | <0.28 | <0.28 | <0.014 | - | - | <0.014 |
| 1,2,4-trichlorobenzene | 1,700[#1] | | <0.02 | <0.02 | <0.02 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | - | <0.02 | <0.1 | - | - | - | - | - | - | <0.2 | <0.4 | <0.02 | - | - | <0.02 |
| Hexachlorobutadiene | 48[#1] | | <0.02 | <0.02 | <0.02 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.02 | <0.1 | - | - | - | - | - | - | <0.2 | <0.4 | <0.02 | - | - | <0.02 |
| 1,2,3-trichlorobenzene | 770[#1] | | <0.02 | <0.02 | <0.02 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | - | <0.02 | <0.4 | - | - | - | - | - | - | <0.4 | <0.4 | <0.02 | - | - | <0.02 |
| 1,2-Dichloroethene | | | <0.016 | <0.016 | <0.016 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | - | <0.016 | <0.32 | - | - | - | - | - | - | <0.32 | <0.32 | <0.016 | - | - | <0.016 |
| Trihalomethanes | | | <0.035 | <0.035 | <0.035 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | - | <0.035 | <0.7 | - | - | - | - | - | - | <0.7 | <0.7 | <0.035 | - | - | <0.035 |
| VOC TICs | | | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | <0.05 | <1 | - | - | - | - | - | - | <1 | <1 | <0.05 | - | - | <0.05 |
| Carbon disulfide | 1.300[#1] | | <0.007 | <0.007 | <0.007 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | <0.007 | <0.14 | - | - | - | - | - | - | <0.14 | <0.14 | <0.007 | - | - | <0.007 |
| Hexachlorobenzene | 30[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Tert Amyl Methyl Ether | | | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | <0.01 | <0.2 | - | - | - | - | - | - | <0.2 | <0.2 | <0.01 | - | - | <0.01 |
| Trichlorobenzene (total) | | | <0.06 | <0.04 | <0.04 | <0.006 | <0.006 | <0.006 | <0.006 | <0.006 | - | <0.04 | <0.5 | - | - | - | - | - | - | <0.6 | <0.8 | <0.04 | - | - | <0.04 |
| PAH | | | | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | 1.200[#1] | | <0.009 | <0.009 | <0.009 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.009 | <0.009 | <0.009 | <0.009 | <0.03 | <0.03 | <0.03 | <0.03 | <0.009 | <0.2 - 0.0138 | <0.09 | <0.013 | <0.045 | <0.045 | <0.009 |
| Acenaphthylene | 29.000[#1] | | <0.012 | <0.012 | <0.012 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.0305 | <0.012 | <0.012 | <0.012 | <0.03 | <0.03 | <0.03 | <0.03 | <0.012 | <0.2 - 0.13 | <0.12 | <0.5 - 0.118 | 0.468 | 0.0959 | <0.1 - 0.0345 |
| Acenaphthene | 29.000[#1] | | <0.008 | <0.008 | <0.008 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.0119 | <0.008 | <0.008 | <0.008 | <0.03 | <0.03 | 0.04 | <0.03 | <0.008 | <0.2 - 0.0169 | <0.08 | <0.04 | <0.04 | <0.04 | <0.1 - 0.0201 |
| Fluorene | 20,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.03 | <0.03 | <0.03 | <0.03 | <0.01 | <0.2 - 0.0129 | <0.1 | <0.05 | <0.05 | <0.05 | <0.1 - 0.0197 |
| Phenanthrene | 6.200[#1] | | <0.015 | <0.015 | <0.015 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.223 | <0.015 | <0.1 - 0.0329 | <0.015 | <0.03 | <0.03 | 0.28 | 0.36 | 0.0815 | 0.325 - 0.335 | <0.5 - 0.222 | <0.5 - 0.402 | 1.2 | 0.585 | 0.227 - 0.392 |
| Anthracene | 150,000[#1] | | <0.016 | <0.016 | <0.016 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.0515 | <0.016 | <0.016 | <0.016 | <0.03 | <0.03 | 0.07 | 0.06 | 0.0262 | <0.2 - 0.12 | <0.16 | <0.5 - 0.15 | 0.481 | 0.2 | <0.1 - 0.0813 |
| Fluoranthene | 6,300[#1] | | <0.017 | <0.1 - 0.0291 | <0.017 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | 0.756 | <0.017 | <0.1 - 0.0626 | <0.017 | 0.07 | 0.05 | 0.41 | 0.77 | 0.187 | 1.62 - 1.72 | 0.979 - 1.01 | 1.49 - 1.5 | 5.48 | 1.72 | 0.623 - 1.02 |
| Pyrene | 15.000[#1] | | <0.015 | <0.1 - 0.0247 | <0.015 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | 0.674 | <0.015 | <0.1 - 0.0559 | <0.015 | 0.06 | 0.05 | 0.35 | 0.66 | 0.167 | 1.49 - 1.52 | 0.899 - 1 | 1.36 - 1.44 | 4.97 | 1.57 | 0.463 - 0.869 |
| Benz(a)anthracene | 49[#1] | | <0.014 | <0.014 | <0.014 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | 0.371 | <0.014 | <0.1 - 0.0373 | <0.014 | <0.03 | <0.03 | 0.1 | 0.22 | 0.094 | 0.902 - 1.13 | 0.645 - 0.649 | 0.79 - 1.07 | 4 | 0.942 | 0.258 - 0.461 |
| Chrysene | 93[#1] | | <0.01 | <0.1 - 0.0189 | <0.01 | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | 0.381 | <0.01 | <0.1 - 0.0409 | <0.01 | <0.03 | <0.03 | 0.11 | 0.28 | 0.0919 | 1.09 | 0.738 - 0.807 | 0.814 - 1.22 | 3.53 | 0.865 | 0.299 - 0.454 |
| Benzo(a) pyrene | 21[#2] | | <0.015 | <0.015 | <0.015 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | 0.452 | <0.015 | <0.1 - 0.0443 | <0.015 | <0.03 | <0.03 | 0.07 | 0.18 | 0.083 | 1.04 - 1.45 | 0.59 - 0.852 | 0.924 - 0.998 | 4.19 | 0.907 | 0.269 - 0.441 |
| Indeno(1,2,3-c,d)pyrene | 150[#1] | | <0.018 | <0.018 | <0.018 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.391 | <0.018 | <0.1 - 0.0361 | <0.018 | <0.03 | <0.03 | <0.03 | 0.11 | 0.0669 | 0.883 - 1.13 | 0.605 - 0.716 | 0.62 - 0.746 | 3.22 | 0.64 | 0.215 - 0.282 |
| Dibenz(a,h)anthracene | 1.1[#1] | | <0.023 | <0.023 | <0.023 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | 0.0563 | <0.023 | <0.023 | <0.023 | <0.03 | <0.03 | <0.03 | <0.03 | <0.023 | <0.2 - 0.206 | <0.23 | <0.115 | 0.585 | <0.115 | <0.1 - 0.049 |
| Benzo(g,h,i)perylene | 1,400[#1] | | <0.024 | <0.024 | <0.024 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.433 | <0.024 | <0.1 - 0.0415 | <0.024 | <0.03 | <0.03 | 0.04 | 0.12 | 0.052 | 0.718 - 1.2 | <0.5 - 0.805 | 0.628 - 0.708 | 3.18 | 0.675 | 0.177 - 0.303 |
| Benzo(b)fluoranthene | 13[#1] | | <0.015 | <0.1 - 0.0294 | <0.015 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.675 | <0.015 | <0.1 - 0.0369 | <0.015 | <0.03 | 0.03 | 0.1 | 0.24 | 0.121 | 0.795 - 1.11 | <0.5 - 1.03 | 0.772 - 1.36 | 2.96 | 1.18 | 0.355 - 0.653 |
| Benzo(k)fluoranthene | 370[#1] | | <0.014 | <0.014 | <0.014 | <0.07 | <0.07 | <0.07 | <0.07 | <0.07 | 0.25 | <0.014 | <0.1 - 0.02 | <0.014 | <0.03 | <0.03 | <0.03 | 0.1 | 0.0454 | 0.542 - 0.946 | 0.284 - 0.705 | 0.455 - 0.858 | 1.67 | 0.431 | 0.233 - 0.235 |
| Benzo(b)&(k)fluoranthene | | | <0.029 | 0.0434 | <0.029 | <0.12 | <0.12 | <0.12 | <0.12 | <0.12 | 0.925 | <0.029 | 0.0569 | <0.029 | <0.06 | 0.06 | 0.13 | 0.34 | 0.1664 | 2.056 | 1.735 | 2.218 | 4.63 | 1.611 | 0.888 |
| PAHs (sum of 4) | | | <0.071 | 0.0854 | <0.071 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 1.749 | <0.071 | 0.1345 | <0.071 | <0.12 | 0.12 | 0.2 | 0.57 | 0.2853 | 4.386 | 3.256 | 3.672 | 11.03 | 2.926 | 1.473 |
| PAH 16 Total | | | <0.118 | <0.118 | <0.118 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | 4.76 | <0.118 | 0.408 | <0.118 | 0.13 | 0.13 | 1.6 | 3.1 | 1.02 | 11.6 | 7.17 | 9.33 | 35.9 | 9.81 | 5.31 |
| PAH 17 Total | | | - | - | - | <0.08 | - | <0.08 | <0.08 | - | - | - | - | - | - | - | - | - | - | - | - | <10 | - | - | - |
| benzo(g,h,i)perylene + inden | | | <0.042 | <0.042 | <0.042 | <0.08 | <0.08 | <0.08 | <0.08 | <0.08 | 0.824 | <0.042 | 0.0776 | <0.042 | <0.06 | <0.06 | 0.07 | 0.23 | 0.1189 | 2.33 | 1.521 | 1.454 | 6.4 | 1.315 | 0.585 |
| Benzo(a)pyrene (surrogate m | 4.4[#1] | | <0.015 | <0.015 | <0.015 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | 0.452 | <0.015 | 0.0443 | <0.015 | <0.03 | <0.03 | 0.07 | 0.18 | 0.083 | 1.45 | 0.852 | 0.998 | 4.19 | 0.907 | 0.441 |
| SVOC | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC TICs | | | <1 | <1 | <1 | - | - | - | - | - | - | <1 | <1 | - | - | - | - | - | - | <2 | <5 | <5 | - | - | <1 |
| Coronene | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.254 | - | - | - |
| 2-chlorophenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 2-methylphenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 2-nitrophenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 2,4-dichlorophenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 2,4-dimethylphenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 2,4,5-trichlorophenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 2,4,6-trichlorophenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 4-chloro-3-methylphenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 4-methylphenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 4-nitrophenol | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Pentachlorophenol | 110[#1] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Phenol | 440[#1] | | <0.01 | <0.01 | <0.01 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.01 | <0.01 | <0.01 | <0.01 | 1 | <0.3 | 0.5 | <0.3 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_4 | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | R72101 | R72102 | | SA505 | | | SA506 | | STP72201 | STP72202 | STP72202A | | STP72501 | | STP72502 | | STP72601 | STPES1 | STPES2 | | STPES3 | STPES4 | |
| | | Depth Range (m) | 0.25 | 0.3 | 1 | 0-0.15 | 0.8-0.8 | 1-1 | 0-0.25 | 0.6-0.6 | 0.3-0.35 | 0.5 | 0.3 | 1 | 0.1 | 0.3 | 0.1 | 0.3 | 0.5 | 0.5 | 0.3 | 1 | 0.65 | 0.3 | 1 |
| | | Date | 03/09/2020 | 01/09/2020 | 01/09/2020 | 28/02/2017 | 28/02/2017 | 28/02/2017 | 01/03/2017 | 01/03/2017 | 07/10/2020 | 05/10/2020 | 02/10/2020 | 02/10/2020 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 06/10/2020 | 07/10/2020 | 08/10/2020 | 08/10/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | 568519 | 567147 | 567147 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 575579 | 574528 | 573946 | 573946 | 19-24827 | 19-25097 | 19-25097 | 19-25097 | 575579 | 575579 | 575579 | 575579 | 575579 | 578687 | 578687 |
| 2-chloronaphthalene | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 2-methylnaphthalene | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Bis(2-ethylhexyl) phthalate | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Butyl benzyl phthalate | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Di-n-butyl phthalate | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Di-n-octyl phthalate | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Diethylphthalate | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Dimethyl phthalate | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 2-nitroaniline | [redacted] | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 3-nitroaniline | [redacted] | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 4-bromophenyl phenyl ether | [redacted] | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 4-chloroaniline | [redacted] | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 4-chlorophenyl phenyl ether | [redacted] | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 4-nitroaniline | [redacted] | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Azobenzene | [redacted] | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Bis(2-chloroethoxy) methane | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Bis(2-chloroethyl)ether | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Carbazole | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Dibenzofuran | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Hexachlorocyclopentadiene | [redacted] | | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.5 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Hexachloroethane | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Isophorone | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| N-nitrosodi-n-propylamine | [redacted] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Bis(2-chloroisopropyl) ether | [redacted] | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Perylene | [redacted] | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroisopropyl)ether | [redacted] | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Phenols | [redacted] | | - | - | - | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCBs | [redacted] | | | | | | | | | | | | | | | | | | | | | | | | |
| PCB 118 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.015 | - | - | - |
| PCB 28 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.015 | - | - | - |
| PCB 52 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.015 | - | - | - |
| PCB 101 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.015 | - | - | - |
| PCB 138 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.015 | - | - | - |
| PCB 153 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.015 | - | - | - |
| PCB 180 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.015 | - | - | - |
| PCBs (Sum of total) | [redacted] | | - | - | - | <0.007 | - | <0.007 | 0.379 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total PCB 7 Congeners | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.105 | - | - | - |
| Herbicides and Pesticides | [redacted] | | | | | | | | | | | | | | | | | | | | | | | | |
| Permethrin I | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Quintozene; (PCNB) | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Baythroid | [redacted] | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| gamma-HCH | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aldrin | 30[#1] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| a-BHC | 47[#1] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| b-BHC | 15[#1] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorothalonil | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlordane (cis) | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dieldrin | 30[#1] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Endosulfan I | 2,400[#1] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Endosulfan II | 2,400[#1] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Endosulfan sulphate | [redacted] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Endrin | [redacted] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| g-BHC (Lindane) | 14[#1] | | - | <0.05 | <0.05 | - | - | - | - | - | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Heptachlor | [redacted] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Heptachlor epoxide | [redacted] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Isodrin | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p''-DDE | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p''-Methoxychlor | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p-DDD | [redacted] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| 4,4-DDE | [redacted] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| DDT | [redacted] | | - | <0.05 | <0.05 | - | - | - | - | - | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Methoxychlor | [redacted] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| DDD | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pendimethalin | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Permethrin II | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tecnazene | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Telodrin | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlordane (trans) | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Triadimefon | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Triallate | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trifluralin | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aldrin + Dieldrin | [redacted] | | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1 | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Azinphos Ethyl | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Azinophos methyl | [redacted] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbophenothion | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorfenvinphos | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorpyrifos | [redacted] | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_4 | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | R72101 | R72102 | | SA505 | | | SA506 | | STP72201 | STP72202 | STP72202A | | STP72501 | | STP72502 | | STP72601 | STPES1 | STPES2 | | STPES3 | STPES4 | |
| | | Depth Range (m) | 0.25 | 0.3 | 1 | 0-0.15 | 0.8-0.8 | 1-1 | 0-0.25 | 0.6-0.6 | 0.3-0.35 | 0.5 | 0.3 | 1 | 0.1 | 0.3 | 0.1 | 0.3 | 0.5 | 0.5 | 0.3 | 1 | 0.65 | 0.3 | 1 |
| | | Date | 03/09/2020 | 01/09/2020 | 01/09/2020 | 28/02/2017 | 28/02/2017 | 28/02/2017 | 01/03/2017 | 01/03/2017 | 07/10/2020 | 05/10/2020 | 02/10/2020 | 02/10/2020 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 06/10/2020 | 07/10/2020 | 08/10/2020 | 08/10/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | 568519 | 567147 | 567147 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 575579 | 574528 | 573946 | 573946 | 19-24827 | 19-25097 | 19-25097 | 19-25097 | 575579 | 575579 | 575579 | 575579 | 575579 | 578687 | 578687 |
| Chlorpyrifos-methyl | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diazinon | | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Dichlorvos | 26[#1] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Dimethoate | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ethion | | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Parathion | | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Etrimphos | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fenitrothion | | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Fenthion | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Malathion | | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Methyl parathion | | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Mevinphos (Phosdrin) | | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Phosalone | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pirimiphos-methyl | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Propetamphos | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Triazophos | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Disulfoton | | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Phorate | | | - | <0.05 | <0.05 | - | - | - | - | - | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Cyhalothrin/Karate | | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cypermethrins(total) | | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Deltamethrin | | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fenvalerate | | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Permethrin | | | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aldrin+Dieldrin+Endrin+Isodr | | | - | <0.15 | <0.15 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.5 | - | <0.15 | - | - | - | - | - | - | - | - | - | - | - | - |
| Atrazine | 2,300[#1] | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Simazine | | | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.5 | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ametryn | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Atraton | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Prometon | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Prometryn | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Propazine | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Simetryn | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Terbutryn | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| p,p-DDT | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p DDT | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Terbutylazine | | | - | - | - | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Explosives | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| 2,6-dinitrotoluene | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Nitrobenzene | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | <0.2 | <0.5 | <0.5 | - | - | <0.1 |
| Metals | | | | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | | | <0.6 | <0.6 | <0.6 | <0.01 | - | <0.01 | <0.01 | - | 2.52 | <0.6 | <0.6 | <0.6 | <1 | <1 | 1.1 | <1 | <0.6 | 1.24 | 1.67 | <0.6 | 1.83 | 4.34 | <0.6 |
| Arsenic | 170[#2] | | 3 | 4.25 | <0.6 | <1 | 3 | 2 | 3 | 2 | 5.95 | 4.15 | 7.01 | 2.48 | 4.2 | 2.7 | 4.4 | 3.1 | 1.14 | 3.3 | 4.04 | 1.63 | 4.61 | 6.26 | 0.662 |
| Barium | | | - | - | - | 18 | 62 | 9 | 44 | 43 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Beryllium | 63[#1] | | 0.177 | 0.147 | 0.0491 | <1 | 1 | <1 | 1 | 1 | 0.453 | 0.616 | 0.448 | 0.305 | 0.3 | 0.2 | 0.2 | <0.2 | 0.114 | 0.302 | 0.221 | 0.178 | 0.268 | 0.248 | 0.13 |
| Boron | 46,000[#1] | | 5.65 | 7.42 | 2.06 | - | - | - | - | - | 8.06 | 6.48 | 7.71 | 5.13 | - | - | - | - | 2.47 | 6.76 | 5.4 | 3.58 | 8.28 | 6.93 | 2.89 |
| Cadmium | 880[#2] | | 0.456 | 0.601 | 0.248 | <0.5 | 1.3 | <0.5 | 1.4 | 1.4 | 0.74 | 0.298 | 0.759 | 0.414 | 0.6 | 0.4 | 0.6 | 0.4 | 0.315 | 0.436 | 0.469 | 0.35 | 0.579 | 0.621 | 0.464 |
| Calcium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chromium (III+VI) | Use either CrIII or CrVI | | 6.9 | 9.3 | 1.47 | 7 | 24 | 2 | 22 | 24 | 11.7 | 14.5 | 16.6 | 6.22 | - | - | - | - | 2.29 | 9.46 | 10.6 | 3.52 | 13.5 | 12.2 | 3.31 |
| Copper | 44,000[#1] | | 6.64 | 6.66 | <1.4 | 3 | 4 | 2 | 10 | 4 | 25.8 | 5.61 | 8.75 | 2.53 | 17 | 6.8 | 19 | 7.5 | 2.21 | 11.3 | 17.8 | 3.48 | 22.5 | 77.3 | 4.57 |
| Iron | | | 4,490 | 8,790 | <1,000 | - | - | - | - | - | 10,700 | 15,400 | 19,000 | 6,370 | 7,500 | 3,600 | 7,600 | 5,700 | 1,750 | 8,820 | 8,830 | 2,710 | 10,400 | 11,500 | 2,620 |
| Lead | 1,300[#2] | | 10.1 | 14.1 | <0.7 | 7 | 17 | 1 | 27 | 16 | 263 | 9.48 | 19.9 | 0.838 | 45 | 15 | 48 | 20 | 3.01 | 38 | 32.7 | 18.1 | 71.5 | 64.8 | 7.91 |
| Magnesium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Manganese | | | 360 | 645 | 205 | 107 | 407 | 246 | 258 | 293 | 670 | 651 | 811 | 426 | 390 | 210 | 390 | 310 | 228 | 351 | 383 | 204 | 517 | 366 | 233 |
| Mercury | 240[#1] | | <0.14 | <0.14 | <0.14 | <0.17 | <0.17 | 0.64 | <0.17 | <0.17 | <0.14 | <0.14 | <0.14 | <0.14 | <0.05 | <0.05 | 0.22 | 0.21 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 |
| Molybdenum | | | <0.1 | 0.226 | <0.1 | <1 | <1 | <1 | <1 | <1 | 0.952 | <0.1 | 0.388 | 0.113 | 0.5 | <0.4 | 0.5 | <0.4 | 0.117 | 0.578 | 0.905 | 0.216 | 0.781 | 1.73 | 0.206 |
| Nickel | 800[#1] | | 5.41 | 7.99 | 2.41 | 4 | 17 | 4 | 11 | 11 | 10.4 | 13.7 | 14.8 | 8.01 | 7.1 | 4.7 | 7 | 5.4 | 3.05 | 7.33 | 8.43 | 4.46 | 8.38 | 9.78 | 4.15 |
| Phosphorus | | | 1,200 | 1,370 | 503 | - | - | - | - | - | 1,230 | 691 | 1,460 | 723 | 880 | 400 | 760 | 620 | 491 | 764 | 599 | 559 | 968 | 1,010 | 534 |
| Selenium | 1,800[#1] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.5 | 0.6 | <0.5 | <0.5 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Sodium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Vanadium | 5,000[#1] | | - | - | - | 7 | 24 | 4 | 20 | 23 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Zinc | 170,000[#1] | | 34.4 | 48.1 | 15 | 18 | 44 | 10 | 51 | 32 | 139 | 44.5 | 64.3 | 22.1 | 100 | 42 | 120 | 46 | 22 | 88.6 | 83.7 | 37.7 | 129 | 326 | 41.3 |
| Boron (Water Soluble) | 46,000[#1] | | - | - | - | <1 | <1 | <1 | <1 | <1 | - | - | - | - | 0.6 | 0.3 | 0.8 | 0.4 | - | - | - | - | - | - | - |
| Chromium (hexavalent) | 250[#2] | | <0.6 | <0.6 | <0.6 | <1 | <1 | <1 | <1 | <1 | <0.6 | <0.6 | <0.6 | <0.6 | <1 | <1 | <1 | <1 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 |
| Chromium (Trivalent) | 33,000[#1] | | 6.9 | 9.3 | 1.47 | 7 | 24 | 2 | 22 | 24 | 12.4 | 14.5 | 16.6 | 6.22 | 9.7 | 4.2 | 8.6 | 5.7 | 2.08 | 9.46 | 10.6 | 3.52 | 13.5 | 12.2 | 3.31 |
| Inorganics | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sulphur | | | - | - | - | <5 | <5 | <5 | <5 | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cyanide (Free) | | | - | - | - | <1 | <1 | <1 | <1 | <1 | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - |
| Cyanide Total | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 0.1 | <0.1 | 0.2 | <0.1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Fluoride | | | - | - | - | 1 | - | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sulphate | | | - | - | - | <10 | - | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chloride | | | - | - | - | <10 | - | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ammoniacal Nitrogen as N | | | <12 | <12 | <12 | - | - | - | - | - | <12 | <12 | <12 | <12 | 6.4 | 4.2 | 5.9 | 2.4 | <12 | <12 | <12 | <12 | <12 | <12 | <12 |
| Easily Liberated Sulphide (Mo | | | - | - | - | <15 | <15 | <15 | <15 | <15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Soluble Sulphate 2:1 extract a | | | - | - | - | - | - | - | - | - | - | - | - | - | 0.028 | 0.029 | 0.027 | 0.021 | - | - | - | - | - | - | - |
| Sulphate (soluble) | | | 0.0252 | 0.0184 | 0.0074 | <0.01 | 0.02 | <0.01 | <0.01 | <0.01 | <0.004 | <0.004 | 0.0111 | 0.0053 | - | - | - | - | 0.0144 | 0.0579 | 0.0855 | 0.0347 | <0.004 | 0.0565 | - |
| TDS | | | - | - | - | 793 | - | 368 | 710 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | Area_4 | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | R72101 | R72102 | | SA505 | | | SA506 | | STP72201 | STP72202 | STP72202A | | STP72501 | | STP72502 | | STP72601 | STPES1 | STPES2 | | STPES3 | STPES4 | |
| | | Depth Range (m) | 0.25 | 0.3 | 1 | 0-0.15 | 0.8-0.8 | 1-1 | 0-0.25 | 0.6-0.6 | 0.3-0.35 | 0.5 | 0.3 | 1 | 0.1 | 0.3 | 0.1 | 0.3 | 0.5 | 0.5 | 0.3 | 1 | 0.65 | 0.3 | 1 |
| | | Date | 03/09/2020 | 01/09/2020 | 01/09/2020 | 28/02/2017 | 28/02/2017 | 28/02/2017 | 01/03/2017 | 01/03/2017 | 07/10/2020 | 05/10/2020 | 02/10/2020 | 02/10/2020 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 26/11/2019 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 06/10/2020 | 07/10/2020 | 08/10/2020 | 08/10/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | 568519 | 567147 | 567147 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 575579 | 574528 | 573946 | 573946 | 19-24827 | 19-25097 | 19-25097 | 19-25097 | 575579 | 575579 | 575579 | 575579 | 575579 | 578687 | 578687 |
| Other | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dry Matter (DM) content | | | - | - | - | 64.6 | - | 79 | 74.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Loss on ignition | | | - | - | - | 9.5 | - | <0.5 | 6.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ANC at pH 4 | | | - | - | - | 0.24 | - | 13.3 | 0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ANC pH_6 dry soil | | | - | - | - | 0.05 | - | 0.46 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Organic Matter | | | - | - | - | 3.1 | 2 | <0.1 | 4.9 | 1.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Moisture | | | 17 | 17 | 18 | - | - | - | - | - | 24 | 11 | 13 | 7.5 | - | - | - | - | 17 | 14 | 13 | 17 | 16 | 6.5 | 18 |
| % Stones >10mm | | | - | - | - | 66.7 | 12.8 | <0.1 | 3.7 | 12.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fraction Organic Carbon | | | - | - | - | 1.79 | 1.14 | <0.03 | 2.83 | 0.75 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| pH (Lab) | | | 8.33 | 8.58 | 9.12 | 7.75 | 7.98 | 8.73 | 7.63 | 7.7 | 8.28 | 8.36 | 8.16 | 8.73 | - | - | - | - | 9.01 | 10.1 | 8.83 | 9.11 | 8.71 | 8.97 | 9.21 |
| TOC | | | 1.12 | 1.53 | <0.2 | - | - | - | - | - | 2.47 | 0.321 | 1.8 | <0.2 | 3.5 | 0.6 | 3.4 | 1.1 | 0.246 | 0.817 | 1.28 | 0.702 | 3.5 | 1.27 | 0.327 |
| Asbestos | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asbestos Identification | | | - | - | - | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | - | Not Detected | - | - | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected |
| Field | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | | | - | - | - | 7.42 | 6.91 | 7.55 | 6.76 | - | - | - | - | - | 7.9 | 10.5 | 7.8 | 8.9 | - | - | - | - | - | - | - |
| Electrical Conductivity | | | - | - | - | 253 | - | 132 | 181 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
GAC: Generic Assessment Criteria
S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria available

**Key**
XXX Exceedance of Human Health, Public Open Space-Park, Sandy Lc

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | STPES5 | | STPES6 | | TP1_CRI | TP10 | TP11 | TP2_CRI | TP3_CRI | TP4_CRI | TP7_CRI | TP8_CRI | TP9 | TP-D | | | TP-E | | | TP-F | | TP-G | | |
| | | Depth Range (m) | 0.5 | 1 | 0.5 | 1 | 0.2 | 0.5 | 0.5 | 0.5 | 0.2 | 0.6 | 0.5 | 0.5 | 0.5 | 0.2 | 0.45 | 0.8 | 0.3 | 0.4 | 0.8 | 0.4 | 0.8 | 0.4 | 0.7 | 1.4 |
| | | Date | 08/10/2020 | 08/10/2020 | 08/10/2020 | 08/10/2020 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 12/11/2020 | 12/11/2020 | 03/11/2020 | 03/11/2020 | 03/11/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | 578687 | 578687 | 578687 | 578687 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | 577343 | 577343 | 577343 | 577343 | 577343 | 577343 | 577287 | 577287 | 577286 | 577286 | 577286 |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >C08-C10 | 7,200[#4] | | - | - | - | - | 2 | 2 | 2 | 2 | 2 | 57.8 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| >C10-C12 | 9,200[#5] | | - | - | - | - | 2 | 2 | 2 | 2 | 2 | 788 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| >C12-C16 | 10,000[#6] | | - | - | - | - | 2 | 2 | 8.69 | 5.2 | 2 | 4,120 | 2 | 3 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| >C16-C21 | 7,600[#7] | | - | - | - | - | 13.6 | 2 | 2 | 40.8 | 13.1 | 4,840 | 2 | 18.9 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| >C21-C35 | 7,800[#8] | | - | - | - | - | 223 | 5.37 | 12 | 438 | 171 | 3,830 | 23.7 | 156 | 35.4 | - | - | - | - | - | - | - | - | - | - | - |
| GRO >C5-C10 | 7,200[#4] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - |
| GRO >C5-C12 | 7,600[#7] | | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - |
| EPH >C10-C40 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | <35 | <35 | <35 | 36.3 | <35 | <35 | - | - | <35 | <35 | <35 |
| >C5-C6 Aliphatics | 95,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C6-C8 Aliphatics | 150,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C8-C10 Aliphatics | 14,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C10-C12 Aliphatics | 21,000[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C12-C16 Aliphatics | 25,000[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C16-C21 Aliphatics | 7,600[#7] | | <1 | <1 | 1.76 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C16-C35 Aliphatics | 450,000[#1] | | 8.39 | 2.95 | 14.56 | 2.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C21-C35 Aliphatics | 7,800[#8] | | 7.39 | 1.95 | 12.8 | 1.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C35-C44 Aliphatics | 450,000[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C35 Aliphatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C6-C7 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C7-C8 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C8 -C10 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC5-EC7 Aromatics | 76,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC7-EC8 Aromatics | 87,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC8-EC10 Aromatics | 7,200[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC8-EC9 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC9-EC10 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC10-EC12 Aromatics | 9,200[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC12-EC16 Aromatics | 10,000[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC16-EC21 Aromatics | 7,600[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC21-EC35 Aromatics | 7,800[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC35-EC44 Aromatics | 7,800[#1] | | 18.2 | 2 | 9.09 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C35 Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C35 Aliphatics & Aromat | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Gasoline Range Organics | | | - | - | - | - | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 80.96 | 1.12 | 1.8 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - |
| Mineral Oil (C10-C40) | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| mineral oil | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aliphatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aromatics | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aromatics > EC16-EC21 | 7,600[#1] | | 14.8 | 2.32 | 4.78 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aromatics > EC21-EC35 | 7,800[#1] | | 68.3 | 15.2 | 44.7 | 2.74 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aromatics > EC40-EC44 | 7,800[#9] | | 1.48 | <1 | 1.19 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH (Ali & Aro) | | | 110 | 22.5 | 73.6 | <10 | 301 | 12.3 | 25 | 572 | 222 | 13,900 | 32 | 2.3 | 40 | - | - | - | - | - | - | - | - | - | - | - |
| Total Aliphatics >C10-C44 | | | 8.35 | <5 | 14.9 | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aromatics > EC10-EC44 | | | 102 | 19.7 | 58.7 | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| VOC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,3,5-Trichlorobenzene | 380[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dichlorodifluoromethane | | | - | - | <0.06 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MTBE | | | <0.1 | <0.01 | <0.1 | <0.01 | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | <0.01 | <0.01 | <0.01 |
| Chloromethane | | | - | - | <0.07 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Vinyl chloride | 18[#3] | | - | - | <0.06 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromomethane | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chloroethane | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorofluoromethane | | | - | - | <0.06 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1-dichloroethene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dichloromethane | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| trans-1,2-dichloroethene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1-dichloroethane | | | - | - | <0.08 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| cis-1,2-dichloroethene | | | - | - | <0.06 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,2-dichloropropane | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromochloromethane | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chloroform | 2,600[#1] | | - | - | <0.08 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1,1-trichloroethane | 57,000[#1] | | - | - | <0.07 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1-dichloropropene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbon tetrachloride | 190[#1] | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dichloroethane | 21[#1] | | - | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Benzene | 230[#2] | | <0.09 | <0.009 | <0.09 | <0.009 | - | - | - | - | - | - | - | - | - | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | - | - | <0.009 | <0.009 | <0.009 |
| Trichloroethene | 41[#3] | | - | - | <0.09 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dichloropropane | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dibromomethane | | | - | - | <0.09 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromodichloromethane | | | - | - | <0.07 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| cis-1,3-dichloropropene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Toluene | 87,000[#1] | | <0.07 | <0.007 | <0.07 | <0.007 | - | - | - | - | - | - | - | - | - | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | - | - | <0.007 | <0.007 | <0.007 |
| trans-1,3-dichloropropene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1,2-trichloroethane | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachloroethene | 1,400[#3] | | - | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,3-dichloropropane | | | - | - | <0.07 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | STPES5 | | STPES6 | | TP1_CRI | TP10 | TP11 | TP2_CRI | TP3_CRI | TP4_CRI | TP7_CRI | TP8_CRI | TP9 | TP-D | | | TP-E | | | TP-F | | TP-G | | |
| | | Depth Range (m) | 0.5 | 1 | 0.5 | 1 | 0.2 | 0.5 | 0.5 | 0.5 | 0.2 | 0.6 | 0.5 | 0.5 | 0.5 | 0.2 | 0.45 | 0.8 | 0.3 | 0.4 | 0.8 | 0.4 | 0.8 | 0.4 | 0.7 | 1.4 |
| | | Date | 08/10/2020 | 08/10/2020 | 08/10/2020 | 08/10/2020 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 12/11/2020 | 12/11/2020 | 03/11/2020 | 03/11/2020 | 03/11/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | 578687 | 578687 | 578687 | 578687 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | 577343 | 577343 | 577343 | 577343 | 577343 | 577343 | 577287 | 577287 | 577286 | 577286 | 577286 |
| Sum of PCE and TCE | | | - | - | <0.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorodibromomethane | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dibromoethane | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorobenzene | 1.300[#1] | | - | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1,1,2-tetrachloroethane | 1,500[#1] | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ethylbenzene | 17.000[#1] | | <0.04 | <0.004 | <0.04 | <0.004 | - | - | - | - | - | - | - | - | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | - | - | <0.004 | <0.004 | <0.004 |
| Xylene (m & p) | | | <0.1 | <0.01 | <0.1 | <0.01 | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | <0.01 | <0.01 | <0.01 |
| Xylene Total | 17,000[#1] | | <0.2 | <0.02 | <0.2 | <0.02 | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | - | - | <0.02 | <0.02 | <0.02 |
| Xylene (o) | 17.000[#1] | | <0.1 | <0.01 | <0.1 | <0.01 | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | <0.01 | <0.01 | <0.01 |
| Total BTEX | | | <0.4 | <0.04 | <0.4 | <0.04 | - | - | - | - | - | - | - | - | - | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - | - | <0.04 | <0.04 | <0.04 |
| Styrene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromoform | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Isopropylbenzene | | | - | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1,2,2-tetrachloroethane | 1.800[#1] | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromobenzene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,3-trichloropropane | | | - | - | <0.16 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| n-propylbenzene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-chlorotoluene | | | - | - | <0.09 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,3,5-trimethylbenzene | | | - | - | <0.08 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chlorotoluene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| tert-butylbenzene | | | - | - | <0.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,4-trimethylbenzene | | | - | - | <0.09 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| sec-butylbenzene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| p-isopropyltoluene | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,3-dichlorobenzene | 390[#1] | | - | - | <0.08 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,4-dichlorobenzene | 36.000[#1] | | - | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| n-butylbenzene | | | - | - | <0.11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dichlorobenzene | 24.000[#1] | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dibromo-3-chloropropan | | | - | - | <0.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,4-trichlorobenzene | 1,700[#1] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorobutadiene | 48[#1] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,3-trichlorobenzene | 770[#1] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-Dichloroethene | | | - | - | <0.16 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trihalomethanes | | | - | - | <0.35 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| VOC TICs | | | - | - | <0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbon disulfide | 1.300[#1] | | - | - | <0.07 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorobenzene | 30[#1] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tert Amyl Methyl Ether | | | - | - | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorobenzene (total) | | | - | - | <0.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PAH | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | 1.200[#1] | | <0.18 | <0.009 | <0.045 | <0.009 | 0.09 | 0.1 | 0.1 | 0.15 | 0.09 | 9.03 | 0.09 | 0.09 | 0.09 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 |
| Acenaphthylene | 29.000[#1] | | 0.317 | 0.0408 | <0.2 - 0.0761 | <0.012 | 0.09 | 0.1 | 0.1 | 1.37 | 0.1 | 3.39 | 0.09 | 0.25 | 0.09 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| Acenaphthene | 29.000[#1] | | <0.16 | <0.008 | <0.04 | <0.008 | 0.09 | 0.1 | 0.1 | 0.2 | 0.09 | 16.1 | 0.09 | 0.13 | 0.09 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 |
| Fluorene | 20,000[#1] | | <0.2 | <0.01 | <0.05 | <0.01 | 0.09 | 0.1 | 0.1 | 0.15 | 0.09 | 16.8 | 0.09 | 0.1 | 0.09 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Phenanthrene | 6.200[#1] | | 0.815 | 0.063 | 0.258 - 0.465 | <0.015 | 0.09 | 0.1 | 0.1 | 1.81 | 0.44 | 77.7 | 0.12 | 1.78 | 0.09 | 0.0221 | <0.015 | <0.015 | 0.027 | <0.015 | <0.015 | 0.0367 | <0.015 | <0.015 | <0.015 | <0.015 |
| Anthracene | 150,000[#1] | | <0.32 | 0.0289 | <0.08 | <0.016 | 0.09 | 0.1 | 0.1 | 1.7 | 0.25 | 26.1 | 0.09 | 0.76 | 0.09 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| Fluoranthene | 6,300[#1] | | 3.75 | 0.365 | 1.17 - 1.68 | 0.0353 | 0.27 | 0.1 | 0.1 | 9.75 | 1.63 | 106.4 | 0.32 | 4.89 | 0.29 | 0.0652 | <0.017 | <0.017 | 0.0863 | <0.017 | <0.017 | 0.122 | <0.017 | <0.017 | <0.017 | <0.017 |
| Pyrene | 15.000[#1] | | 3.61 | 0.342 | 1.05 - 1.45 | 0.0313 | 0.24 | 0.1 | 0.1 | 8.16 | 1.32 | 81 | 0.27 | 4.1 | 0.26 | 0.0576 | <0.015 | <0.015 | 0.0794 | <0.015 | <0.015 | 0.11 | <0.015 | <0.015 | <0.015 | <0.015 |
| Benz(a)anthracene | 49[#1] | | 2.3 | 0.236 | 0.673 - 0.88 | 0.0191 | 0.18 | 0.1 | 0.1 | 6.02 | 1.08 | 45.2 | 0.26 | 2.53 | 0.24 | 0.0333 | <0.014 | <0.014 | 0.047 | <0.014 | <0.014 | 0.0763 | <0.014 | <0.014 | <0.014 | <0.014 |
| Chrysene | 93[#1] | | 2.21 | 0.223 | 0.686 - 0.972 | 0.0185 | 0.25 | 0.1 | 0.14 | 6.43 | 1.06 | 34.9 | 0.27 | 2.26 | 0.22 | 0.0381 | <0.01 | <0.01 | 0.0555 | <0.01 | <0.01 | 0.0799 | <0.01 | <0.01 | <0.01 | <0.01 |
| Benzo(a) pyrene | 21[#2] | | 2.43 | 0.282 | 0.73 - 0.917 | 0.019 | 0.19 | 0.1 | 0.1 | 7.64 | 1.11 | **43.8** | 0.15 | 2.78 | 0.22 | 0.0406 | <0.015 | <0.015 | 0.0547 | <0.015 | <0.015 | 0.097 | <0.015 | <0.015 | <0.015 | <0.015 |
| Indeno(1,2,3-c,d)pyrene | 150[#1] | | 1.91 | 0.219 | 0.678 - 0.992 | <0.018 | 0.17 | 0.1 | 0.1 | 5.72 | 0.76 | 30.5 | 0.1 | 1.87 | 0.14 | 0.0363 | <0.018 | <0.018 | 0.0436 | <0.018 | <0.018 | 0.0951 | <0.018 | <0.018 | <0.018 | <0.018 |
| Dibenz(a,h)anthracene | 1.1[#1] | | <0.46 | 0.0389 | <0.115 | <0.023 | 0.09 | 0.1 | 0.1 | **1.38** | 0.18 | **5.59** | 0.09 | - | 0.09 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 |
| Benzo(g,h,i)perylene | 1,400[#1] | | 2.18 | 0.233 | 0.696 - 0.922 | <0.024 | 0.27 | 0.1 | 0.1 | 6.05 | 0.83 | 26.7 | 0.1 | 1.88 | 0.15 | 0.0363 | <0.024 | <0.024 | 0.0466 | <0.024 | <0.024 | 0.0836 | <0.024 | <0.024 | <0.024 | <0.024 |
| Benzo(b)fluoranthene | 13[#1] | | 3.34 | 0.369 | 1.08 - 1.52 | 0.0294 | 0.29 | 0.1 | 0.15 | 9.23 | 1.38 | **50.1** | 0.21 | 3.11 | 0.27 | 0.0691 | <0.015 | <0.015 | 0.0863 | <0.015 | <0.015 | 0.15 | <0.015 | <0.015 | <0.015 | <0.015 |
| Benzo(k)fluoranthene | 370[#1] | | 1.21 | 0.14 | 0.368 - 0.959 | <0.014 | 0.1 | 0.1 | 0.1 | 3.32 | 0.51 | 17.2 | 0.09 | 1.23 | 0.1 | 0.0268 | <0.014 | <0.014 | 0.0381 | <0.014 | <0.014 | 0.0553 | <0.014 | <0.014 | <0.014 | <0.014 |
| Benzo(b)&(k)fluoranthene | | | 4.55 | 0.509 | 2.479 | 0.0434 | 0.39 | 0.2 | 0.25 | 12.55 | 1.89 | 67.3 | 0.3 | 4.34 | 0.37 | 0.0959 | <0.029 | <0.029 | 0.1244 | <0.029 | <0.029 | 0.2053 | <0.029 | <0.029 | <0.029 | <0.029 |
| PAHs (sum of 4) | | | 8.64 | 0.961 | 4.393 | 0.0854 | 0.83 | 0.4 | 0.45 | 24.32 | 3.48 | 124.5 | 0.5 | 8.09 | 0.66 | 0.1685 | <0.071 | <0.071 | 0.2146 | <0.071 | <0.071 | 0.384 | <0.071 | <0.071 | <0.071 | <0.071 |
| PAH 16 Total | | | 24.1 | 2.58 | 7.47 | 0.153 | - | - | - | - | - | - | - | - | - | 0.425 | <0.118 | <0.118 | 0.564 | <0.118 | <0.118 | 0.906 | <0.118 | <0.118 | <0.118 | <0.118 |
| PAH 17 Total | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| benzo(g,h,i)perylene + inden | | | 4.09 | 0.452 | 1.914 | <0.042 | 0.44 | 0.2 | 0.2 | 11.77 | 1.59 | 57.2 | 0.2 | 3.75 | 0.29 | 0.0726 | <0.042 | <0.042 | 0.0902 | <0.042 | <0.042 | 0.1787 | <0.042 | <0.042 | <0.042 | <0.042 |
| Benzo(a)pyrene (surrogate m | 4.4[#1] | | 2.43 | 0.282 | 0.917 | 0.019 | 0.19 | 0.1 | 0.1 | **7.64** | 1.11 | **43.8** | 0.15 | 2.78 | 0.22 | 0.0406 | <0.015 | <0.015 | 0.0547 | <0.015 | <0.015 | 0.097 | <0.015 | <0.015 | <0.015 | <0.015 |
| SVOC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVOC TICs | | | - | - | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Coronene | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-chlorophenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-methylphenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-nitrophenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4-dichlorophenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4-dimethylphenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4,5-trichlorophenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4,6-trichlorophenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chloro-3-methylphenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-methylphenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-nitrophenol | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pentachlorophenol | 110[#1] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phenol | 440[#1] | | 0.0116 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | STPES5 | | STPES6 | | TP1_CRI | TP10 | TP11 | TP2_CRI | TP3_CRI | TP4_CRI | TP7_CRI | TP8_CRI | TP9 | TP-D | | | TP-E | | | TP-F | | TP-G | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Depth Range (m) | 0.5 | 1 | 0.5 | 1 | 0.2 | 0.5 | 0.5 | 0.5 | 0.2 | 0.6 | 0.5 | 0.5 | 0.5 | 0.2 | 0.45 | 0.8 | 0.3 | 0.4 | 0.8 | 0.4 | 0.8 | 0.4 | 0.7 | 1.4 |
| | | Date | 08/10/2020 | 08/10/2020 | 08/10/2020 | 08/10/2020 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 12/11/2020 | 12/11/2020 | 03/11/2020 | 03/11/2020 | 03/11/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | 578687 | 578687 | 578687 | 578687 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | 577343 | 577343 | 577343 | 577343 | 577343 | 577343 | 577287 | 577287 | 577286 | 577286 | 577286 |
| 2-chloronaphthalene | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-methylnaphthalene | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-ethylhexyl) phthalate | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Butyl benzyl phthalate | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Di-n-butyl phthalate | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Di-n-octyl phthalate | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diethylphthalate | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dimethyl phthalate | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-nitroaniline | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3-nitroaniline | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-bromophenyl phenyl ether | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chloroaniline | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chlorophenyl phenyl ether | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-nitroaniline | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Azobenzene | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroethoxy) methane | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroethyl)ether | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbazole | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dibenzofuran | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorocyclopentadiene | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachloroethane | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Isophorone | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| N-nitrosodi-n-propylamine | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroisopropyl) ether | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Perylene | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroisopropyl)ether | [redacted] | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phenols | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCBs | [redacted] | | | | | | | | | | | | | | | | | | | | | | | | | |
| PCB 118 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 28 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 52 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 101 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 138 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 153 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCB 180 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PCBs (Sum of total) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total PCB 7 Congeners | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Herbicides and Pesticides | [redacted] | | | | | | | | | | | | | | | | | | | | | | | | | |
| Permethrin I | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Quintozene; (PCNB) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Baythroid | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| gamma-HCH | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aldrin | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| a-BHC | 47[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| b-BHC | 15[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorothalonil | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlordane (cis) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dieldrin | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Endosulfan I | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Endosulfan II | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Endosulfan sulphate | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Endrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| g-BHC (Lindane) | 14[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Heptachlor | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Heptachlor epoxide | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Isodrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p''-DDE | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p''-Methoxychlor | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p-DDD | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4,4-DDE | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| DDT | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Methoxychlor | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| DDD | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pendimethalin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Permethrin II | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tecnazene | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Telodrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlordane (trans) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Triadimefon | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Triallate | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trifluralin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aldrin + Dieldrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Azinphos Ethyl | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Azinophos methyl | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbophenothion | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorfenvinphos | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorpyrifos | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | STPES5 | | STPES6 | | TP1_CRI | TP10 | TP11 | TP2_CRI | TP3_CRI | TP4_CRI | TP7_CRI | TP8_CRI | TP9 | TP-D | | | TP-E | | | TP-F | | TP-G | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Depth Range (m) | 0.5 | 1 | 0.5 | 1 | 0.2 | 0.5 | 0.5 | 0.5 | 0.2 | 0.6 | 0.5 | 0.5 | 0.5 | 0.2 | 0.45 | 0.8 | 0.3 | 0.4 | 0.8 | 0.4 | 0.8 | 0.4 | 0.7 | 1.4 |
| | | Date | 08/10/2020 | 08/10/2020 | 08/10/2020 | 08/10/2020 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 12/11/2020 | 12/11/2020 | 03/11/2020 | 03/11/2020 | 03/11/2020 |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | Lab Report Number | 578687 | 578687 | 578687 | 578687 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | 577343 | 577343 | 577343 | 577343 | 577343 | 577343 | 577287 | 577287 | 577286 | 577286 | 577286 |
| Chlorpyrifos-methyl | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diazinon | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dichlorvos | 26[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dimethoate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ethion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Parathion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Etrimphos | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fenitrothion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fenthion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Malathion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Methyl parathion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mevinphos (Phosdrin) | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phosalone | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pirimiphos-methyl | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Propetamphos | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Triazophos | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Disulfoton | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phorate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cyhalothrin/Karate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cypermethrins(total) | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Deltamethrin | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fenvalerate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Permethrin | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Aldrin+Dieldrin+Endrin+Isodr | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Atrazine | 2,300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Simazine | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ametryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Atraton | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Prometon | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Prometryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Propazine | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Simetryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Terbutryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| p,p-DDT | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| o,p DDT | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Terbutylazine | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Explosives | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,6-dinitrotoluene | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Nitrobenzene | | | - | - | <0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Metals | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | | | 2.5 | <0.6 | 3.86 | 1.82 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Arsenic | 170[#2] | | 5.22 | 4.47 | 3.39 | 1.13 | 4.4 | 2 | 2 | 4.4 | 4.9 | 2.5 | <1.8 | 2.4 | 2 | 6.94 | <0.6 | <0.6 | 6.28 | <0.6 | <0.6 | 5.72 | <0.6 | 2.69 | 0.988 | <0.6 |
| Barium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 63.3 | 8.41 | 9.36 | 59.2 | 9.37 | 11.1 | 50.1 | 10.5 | 28.2 | 17.3 | 8.53 |
| Beryllium | 63[#1] | | 0.395 | 0.396 | 0.306 | 0.0987 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Boron | 46,000[#1] | | 9.36 | 14.8 | 6.94 | 2.47 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cadmium | 880[#2] | | 0.497 | 0.113 | 0.396 | 0.449 | 0.5 | 0.63 | 0.63 | 0.41 | 0.58 | 0.43 | 0.49 | 0.59 | 0.5 | 0.817 | 0.394 | 0.378 | 0.805 | 0.353 | 0.386 | 0.756 | 0.368 | 0.399 | 0.365 | 0.343 |
| Calcium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 160,000 | 451,000 | 424,000 | 182,000 | 423,000 | 411,000 | 277,000 | 404,000 | 371,000 | 430,000 | 679,000 |
| Chromium (III+VI) | Use either CrIII or CrVI | | 11 | 8.91 | 13.5 | 4.32 | 16.9 | 3 | 3 | 15.9 | 12.6 | 16 | 3.4 | 8.2 | 6.5 | 11.8 | <0.9 | 0.968 | 11.1 | <0.9 | 1.12 | 8.57 | 1.02 | 5.66 | 2.83 | <0.9 |
| Copper | 44,000[#1] | | 32.5 | 3.26 | 37 | 56.6 | 14 | 3 | 3 | 8.1 | 13 | 13.8 | <2.7 | 3.7 | 3 | 7.47 | <1.4 | <1.4 | 8.11 | <1.4 | <1.4 | 6.31 | <1.4 | 3.11 | 1.53 | <1.4 |
| Iron | | | 11,900 | 12,400 | 9,140 | 2,070 | - | - | - | - | - | - | - | - | - | 11,300 | <1,000 | <1,000 | 10,500 | <1,000 | <1,000 | 8,140 | <1,000 | 7,030 | 2,920 | <1,000 |
| Lead | 1,300[#2] | | 74.5 | 6.3 | 54.8 | 14.2 | 29 | 3.5 | 4.9 | 20.5 | 63.5 | 23.6 | 7.2 | 10.6 | 5.7 | 17.3 | <0.7 | <0.7 | 15.9 | <0.7 | <0.7 | 14.5 | <0.7 | 3 | 1.18 | <0.7 |
| Magnesium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 1,660 | 949 | 958 | 1,650 | 932 | 953 | 1,490 | 917 | 1,600 | 1,170 | 872 |
| Manganese | | | 432 | 485 | 286 | 247 | - | - | - | - | - | - | - | - | - | 798 | 185 | 187 | 794 | 191 | 209 | 624 | 205 | 302 | 244 | 176 |
| Mercury | 240[#1] | | <0.14 | <0.14 | <0.14 | <0.14 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 |
| Molybdenum | | | 1.17 | 0.17 | 1.5 | 0.534 | - | - | - | - | - | - | - | - | - | 0.233 | 0.131 | 0.101 | 0.202 | 0.103 | 0.116 | 0.165 | <0.1 | 0.252 | <0.1 | 0.139 |
| Nickel | 800[#1] | | 10.4 | 10.8 | 8.61 | 4.46 | 14.9 | 6.8 | 4.6 | 13.9 | 11.8 | 9.2 | 5.7 | 12.1 | 7.7 | 10.9 | 1.58 | 2.15 | 10.3 | 1.35 | 1.72 | 8.55 | 1.73 | 7.66 | 3.62 | 2.04 |
| Phosphorus | | | 1,050 | 1,010 | 650 | 530 | - | - | - | - | - | - | - | - | - | 907 | 347 | 394 | 926 | 287 | 308 | 852 | 312 | 411 | 350 | 282 |
| Selenium | 1,800[#1] | | <1 | <1 | <1 | <1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Sodium | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 124 | 164 | 166 | 128 | 158 | 151 | 144 | 156 | 136 | 146 | 162 |
| Vanadium | 5,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Zinc | 170,000[#1] | | 141 | 22 | 139 | 103 | 128.1 | 31.6 | 31.7 | 70.5 | 101 | 366.5 | 37 | 46.4 | 31.6 | 55.1 | 10.9 | 10.7 | 53.3 | 9.88 | 10.6 | 66.7 | 12.2 | 23.3 | 15.5 | 12.7 |
| Boron (Water Soluble) | 46,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chromium (hexavalent) | 250[#2] | | <0.6 | <0.6 | <0.6 | <0.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chromium (Trivalent) | 33,000[#1] | | 11 | 8.91 | 13.5 | 4.32 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Inorganics | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sulphur | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cyanide (Free) | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cyanide Total | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fluoride | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sulphate | | | - | - | - | - | 59 | 26 | 40 | 86 | 53 | 117 | 41 | 33 | 30 | - | - | - | - | - | - | - | - | - | - | - |
| Chloride | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ammoniacal Nitrogen as N | | | <12 | <12 | <12 | <12 | - | - | - | - | - | - | - | - | - | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 |
| Easily Liberated Sulphide (Mo | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Soluble Sulphate 2:1 extract a | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sulphate (soluble) | | | 0.0267 | 0.0068 | 0.0484 | 0.023 | - | - | - | - | - | - | - | - | - | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | 0.004 | <0.004 | <0.004 | 0.0052 |
| TDS | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | **Monitoring Zone** | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Location** | STPES5 | | STPES6 | | TP1_CRI | TP10 | TP11 | TP2_CRI | TP3_CRI | TP4_CRI | TP7_CRI | TP8_CRI | TP9 | TP-D | | | TP-E | | | TP-F | | TP-G | | |
| | | **Depth Range (m)** | 0.5 | 1 | 0.5 | 1 | 0.2 | 0.5 | 0.5 | 0.5 | 0.2 | 0.6 | 0.5 | 0.5 | 0.5 | 0.2 | 0.45 | 0.8 | 0.3 | 0.4 | 0.8 | 0.4 | 0.8 | 0.4 | 0.7 | 1.4 |
| | | **Date** | 08/10/2020 | 08/10/2020 | 08/10/2020 | 08/10/2020 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 21/08/2009 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 02/11/2020 | 12/11/2020 | 12/11/2020 | 03/11/2020 | 03/11/2020 | 03/11/2020 |
| | | **Sample Type** | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | **Lab Report Number** | 578687 | 578687 | 578687 | 578687 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | GIR_2009 | 577343 | 577343 | 577343 | 577343 | 577343 | 577343 | 577287 | 577287 | 577286 | 577286 | 577286 |
| Other | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dry Matter (DM) content | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Loss on ignition | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ANC at pH 4 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ANC pH_6 dry soil | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Organic Matter | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Moisture | | | 14 | 9.6 | 16 | 20 | 11.1 | 18.4 | 19.3 | 7.2 | 14.5 | 7.5 | 8.9 | 12.8 | 11.8 | 21 | 21 | 20 | 16 | 17 | 17 | 20 | 21 | 10 | 18 | 21 |
| % Stones >10mm | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fraction Organic Carbon | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| pH (Lab) | | | 8.71 | 9.2 | 8.75 | 9.14 | - | - | - | - | - | - | - | - | - | 8.06 | 9.07 | 9.2 | 8.15 | 8.96 | 8.93 | 8.41 | 8.89 | 8.8 | 8.91 | 9.17 |
| TOC | | | 1.54 | 0.23 | 1.96 | <0.2 | - | - | - | - | - | - | - | - | - | 2.14 | <0.2 | <0.2 | 2.01 | <0.2 | <0.2 | 1.61 | <0.2 | 0.294 | 0.315 | <0.2 |
| Asbestos | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asbestos Identification | | | Not Detected | Not Detected | Not Detected | Not Detected | Not Detected | - | Not Detected | - | Not Detected | - | Not Detected | - | Not Detected | - | - | - | - | - | - | - | - | - | - | - |
| Field | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | | | - | - | - | - | 7.8 | 9 | 8.9 | 9.6 | 8.2 | 8.6 | 8.8 | 8.8 | 8.7 | - | - | - | - | - | - | - | - | - | - | - |
| Electrical Conductivity | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
GAC: Generic Assessment Criteria
S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria available

**Key**
**XXX** Exceedance of Human Health, Public Open Space-Park, Sandy Lc

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | TP-H | | | TP-J | | | TP-K | | | | WS72401 | WS72403 | | | | | | |
| | | Depth Range (m) | 0.2 | 0.35 | 0.6 | 0.4 | 0.7 | 1.2 | 0.35 | 0.5 | 0.7 | 1.2 | 0.3 | 0.4-0.4 | 1-1 | 1.5 | | | | |
| | | Date | 03/11/2020 | 05/11/2020 | 03/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 05/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 24/09/2020 | 12/11/2019 | 12/11/2019 | 02/12/2019 | | | | |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | Lab Report Number | 577286 | 577345 | 577286 | 577345 | 577345 | 577290 | 577345 | 577345 | 577345 | 577290 | 571020 | 18/08308 | 19-23362 | 19-25097 | | | | |
| **TPH** | | | | | | | | | | | | | | | | | | | | |
| >C08-C10 | **7,200**[#4] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11 | 11 | 57.8 | 0 |
| >C10-C12 | **9,200**[#5] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11 | 11 | 788 | 0 |
| >C12-C16 | **10,000**[#6] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11 | 11 | 4120 | 0 |
| >C16-C21 | **7,600**[#7] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11 | 11 | 4840 | 0 |
| >C21-C35 | **7,800**[#8] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11 | 11 | 3830 | 0 |
| GRO >C5-C10 | **7,200**[#4] | - | - | - | - | - | - | - | - | - | - | <0.02 | - | - | - | 38 | 3 | 2.34 | 0 |
| GRO >C5-C12 | **7,600**[#7] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| EPH >C10-C40 | | <35 | <35 | <35 | <35 | <35 | <35 | <35 | <35 | <35 | <35 | - | - | - | - | 19 | 1 | 36.3 | 0 |
| >C5-C6 Aliphatics | **95,000**[#1] | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | 52 | 2 | 0.0225 | 0 |
| >C6-C8 Aliphatics | **150,000**[#1] | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | 52 | 4 | 0.122 | 0 |
| >C8-C10 Aliphatics | **14,000**[#1] | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | 52 | 6 | 2.4 | 0 |
| >C10-C12 Aliphatics | **21,000**[#1] | - | - | - | - | - | - | - | - | - | - | <1 | <1.5 | <1.5 | <1.5 | 53 | 2 | 10.2 | 0 |
| >C12-C16 Aliphatics | **25,000**[#1] | - | - | - | - | - | - | - | - | - | - | <1 | <1.2 | <1.2 | <1.2 | 53 | 4 | 29.6 | 0 |
| >C16-C21 Aliphatics | **7,600**[#7] | - | - | - | - | - | - | - | - | - | - | <1 | <1.5 | <1.5 | <1.5 | 53 | 5 | 29.1 | 0 |
| >C16-C35 Aliphatics | **450,000**[#1] | - | - | - | - | - | - | - | - | - | - | 8.68 | <4.9 | <4.9 | <4.9 | 53 | 27 | 127.5 | 0 |
| >C21-C35 Aliphatics | **7,800**[#8] | - | - | - | - | - | - | - | - | - | - | 7.68 | <3.4 | <3.4 | <3.4 | 53 | 27 | 98.4 | 0 |
| >C35-C44 Aliphatics | **450,000**[#1] | - | - | - | - | - | - | - | - | - | - | <1 | - | - | - | 33 | 7 | 64.8 | 0 |
| >C5-C35 Aliphatics | | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | <10 | 12 | 0 | ND | 0 |
| >C6-C7 Aromatics | | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | 12 | 0 | ND | 0 |
| >C7-C8 Aromatics | | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | 12 | 0 | ND | 0 |
| >C8 -C10 Aromatics | | - | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | 12 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | **76,000**[#1] | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 40 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | **87,000**[#1] | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 40 | 1 | 0.0389 | 0 |
| >EC8-EC10 Aromatics | **7,200**[#1] | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 32 | 4 | 0.863 | 0 |
| >EC8-EC9 Aromatics | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | **9,200**[#1] | - | - | - | - | - | - | - | - | - | - | <1 | <0.9 | <0.9 | <0.9 | 53 | 3 | 70.3 | 0 |
| >EC12-EC16 Aromatics | **10,000**[#1] | - | - | - | - | - | - | - | - | - | - | <1 | <0.5 | <0.5 | <0.5 | 53 | 5 | 305 | 0 |
| >EC16-EC21 Aromatics | **7,600**[#1] | - | - | - | - | - | - | - | - | - | - | - | <0.6 | <0.6 | <0.6 | 20 | 1 | 2.2 | 0 |
| >EC21-EC35 Aromatics | **7,800**[#1] | - | - | - | - | - | - | - | - | - | - | - | <1.4 | <1.4 | <1.4 | 20 | 1 | 30.1 | 0 |
| >EC35-EC44 Aromatics | **7,800**[#1] | - | - | - | - | - | - | - | - | - | - | 1.12 | - | - | - | 33 | 18 | 206 | 0 |
| >C5-C35 Aromatics | | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | <10 | 12 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromat | | - | - | - | - | - | - | - | - | - | - | - | <10 | <10 | <10 | 12 | 0 | ND | 0 |
| Gasoline Range Organics | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 17 | 11 | 80.96 | 0 |
| Mineral Oil (C10-C40) | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 1 | 41 | 0 |
| mineral oil | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 357 | 0 |
| Total Aliphatics | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Total Aromatics | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 1 | 32.5 | 0 |
| Aromatics > EC16-EC21 | **7,600**[#1] | - | - | - | - | - | - | - | - | - | - | <1 | - | - | - | 33 | 18 | 957 | 0 |
| Aromatics > EC21-EC35 | **7,800**[#1] | - | - | - | - | - | - | - | - | - | - | 6.47 | - | - | - | 33 | 26 | 1410 | 0 |
| Aromatics > EC40-EC44 | **7,800**[#9] | - | - | - | - | - | - | - | - | - | - | <1 | - | - | - | 33 | 8 | 35.9 | 0 |
| TPH (Ali & Aro) | | - | - | - | - | - | - | - | - | - | - | 18.1 | - | - | - | 52 | 34 | 13900 | 0 |
| Total Aliphatics >C10-C44 | | - | - | - | - | - | - | - | - | - | - | 9.7 | - | - | - | 33 | 18 | 232 | 0 |
| Total Aromatics > EC10-EC44 | | - | - | - | - | - | - | - | - | - | - | 8.43 | - | - | - | 33 | 21 | 2930 | 0 |
| VOC | | | | | | | | | | | | | | | | | | | |
| 1,3,5-Trichlorobenzene | **380**[#1] | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Dichlorodifluoromethane | | - | - | - | - | - | - | - | - | - | - | <0.006 | - | - | - | 25 | 0 | ND | 0 |
| MTBE | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 71 | 0 | ND | 0 |
| Chloromethane | | - | - | - | - | - | - | - | - | - | - | <0.007 | - | - | - | 25 | 0 | ND | 0 |
| Vinyl chloride | **18**[#3] | - | - | - | - | - | - | - | - | - | - | <0.006 | - | - | - | 25 | 0 | ND | 0 |
| Bromomethane | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Chloroethane | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Trichlorofluoromethane | | - | - | - | - | - | - | - | - | - | - | <0.006 | - | - | - | 25 | 0 | ND | 0 |
| 1,1-dichloroethene | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Dichloromethane | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 3 | 0.0273 | 0 |
| trans-1,2-dichloroethene | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| 1,1-dichloroethane | | - | - | - | - | - | - | - | - | - | - | <0.008 | - | - | - | 25 | 0 | ND | 0 |
| cis-1,2-dichloroethene | | - | - | - | - | - | - | - | - | - | - | <0.006 | - | - | - | 25 | 0 | ND | 0 |
| 2,2-dichloropropane | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Bromochloromethane | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Chloroform | **2,600**[#1] | - | - | - | - | - | - | - | - | - | - | <0.008 | - | - | - | 25 | 0 | ND | 0 |
| 1,1,1-trichloroethane | **57,000**[#1] | - | - | - | - | - | - | - | - | - | - | <0.007 | - | - | - | 25 | 0 | ND | 0 |
| 1,1-dichloropropene | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Carbon tetrachloride | **190**[#1] | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| 1,2-dichloroethane | **21**[#1] | - | - | - | - | - | - | - | - | - | - | <0.005 | - | - | - | 25 | 0 | ND | 0 |
| Benzene | **230**[#2] | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.01 | <0.01 | <0.01 | 71 | 0 | ND | 0 |
| Trichloroethene | **41**[#3] | - | - | - | - | - | - | - | - | - | - | <0.009 | - | - | - | 25 | 0 | ND | 0 |
| 1,2-dichloropropane | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Dibromomethane | | - | - | - | - | - | - | - | - | - | - | <0.009 | - | - | - | 25 | 0 | ND | 0 |
| Bromodichloromethane | | - | - | - | - | - | - | - | - | - | - | <0.007 | - | - | - | 25 | 0 | ND | 0 |
| cis-1,3-dichloropropene | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Toluene | **87,000**[#1] | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.01 | <0.01 | <0.01 | 71 | 0 | ND | 0 |
| trans-1,3-dichloropropene | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| 1,1,2-trichloroethane | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Tetrachloroethene | **1,400**[#3] | - | - | - | - | - | - | - | - | - | - | <0.005 | - | - | - | 25 | 0 | ND | 0 |
| 1,3-dichloropropane | | - | - | - | - | - | - | - | - | - | - | <0.007 | - | - | - | 25 | 0 | ND | 0 |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | TP-H | | | TP-J | | | TP-K | | | | WS72401 | WS72403 | | | | | | |
| | | Depth Range (m) | 0.2 | 0.35 | 0.6 | 0.4 | 0.7 | 1.2 | 0.35 | 0.5 | 0.7 | 1.2 | 0.3 | 0.4-0.4 | 1-1 | 1.5 | | | | |
| | | Date | 03/11/2020 | 05/11/2020 | 03/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 05/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 24/09/2020 | 12/11/2019 | 12/11/2019 | 02/12/2019 | | | | |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | Lab Report Number | 577286 | 577345 | 577286 | 577345 | 577345 | 577290 | 577345 | 577345 | 577345 | 577290 | 571020 | 18/08308 | 19-23362 | 19-25097 | | | | |
| Sum of PCE and TCE | | | - | - | - | - | - | - | - | - | - | - | <0.014 | - | - | - | 25 | 0 | ND | 0 |
| Chlorodibromomethane | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| 1,2-dibromoethane | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Chlorobenzene | 1.300[#1] | | - | - | - | - | - | - | - | - | - | - | <0.005 | - | - | - | 25 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | 1,500[#1] | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Ethylbenzene | 17.000[#1] | | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.01 | <0.01 | <0.01 | 71 | 0 | ND | 0 |
| Xylene (m & p) | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | 59 | 0 | ND | 0 |
| Xylene Total | 17,000[#1] | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.01 | <0.01 | <0.01 | 71 | 2 | 0.41 | 0 |
| Xylene (o) | 17.000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | 59 | 0 | ND | 0 |
| Total BTEX | | | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | <0.04 | - | - | - | 56 | 0 | ND | 0 |
| Styrene | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Bromoform | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Isopropylbenzene | | | - | - | - | - | - | - | - | - | - | - | <0.005 | - | - | - | 25 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | 1.800[#1] | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| Bromobenzene | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| 1,2,3-trichloropropane | | | - | - | - | - | - | - | - | - | - | - | <0.016 | - | - | - | 25 | 0 | ND | 0 |
| n-propylbenzene | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| 2-chlorotoluene | | | - | - | - | - | - | - | - | - | - | - | <0.009 | - | - | - | 25 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | | | - | - | - | - | - | - | - | - | - | - | <0.008 | - | - | - | 25 | 0 | ND | 0 |
| 4-chlorotoluene | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| tert-butylbenzene | | | - | - | - | - | - | - | - | - | - | - | <0.014 | - | - | - | 25 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | | | - | - | - | - | - | - | - | - | - | - | <0.009 | - | - | - | 25 | 0 | ND | 0 |
| sec-butylbenzene | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| p-isopropyltoluene | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| 1,3-dichlorobenzene | 390[#1] | | - | - | - | - | - | - | - | - | - | - | <0.008 | - | - | - | 25 | 0 | ND | 0 |
| 1,4-dichlorobenzene | 36.000[#1] | | - | - | - | - | - | - | - | - | - | - | <0.005 | - | - | - | 25 | 0 | ND | 0 |
| n-butylbenzene | | | - | - | - | - | - | - | - | - | - | - | <0.011 | - | - | - | 25 | 0 | ND | 0 |
| 1,2-dichlorobenzene | 24.000[#1] | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 25 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropan | | | - | - | - | - | - | - | - | - | - | - | <0.014 | - | - | - | 25 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | 1,700[#1] | | - | - | - | - | - | - | - | - | - | - | <0.02 | - | - | - | 25 | 0 | ND | 0 |
| Hexachlorobutadiene | 48[#1] | | - | - | - | - | - | - | - | - | - | - | <0.02 | - | - | - | 25 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | 770[#1] | | - | - | - | - | - | - | - | - | - | - | <0.02 | - | - | - | 25 | 0 | ND | 0 |
| 1,2-Dichloroethene | | | - | - | - | - | - | - | - | - | - | - | <0.016 | - | - | - | 25 | 0 | ND | 0 |
| Trihalomethanes | | | - | - | - | - | - | - | - | - | - | - | <0.035 | - | - | - | 25 | 0 | ND | 0 |
| VOC TICs | | | - | - | - | - | - | - | - | - | - | - | <0.05 | - | - | - | 17 | 2 | 16.4 | 0 |
| Carbon disulfide | 1.300[#1] | | - | - | - | - | - | - | - | - | - | - | <0.007 | - | - | - | 25 | 0 | ND | 0 |
| Hexachlorobenzene | 30[#1] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Tert Amyl Methyl Ether | | | - | - | - | - | - | - | - | - | - | - | <0.01 | - | - | - | 17 | 0 | ND | 0 |
| Trichlorobenzene (total) | | | - | - | - | - | - | - | - | - | - | - | <0.04 | - | - | - | 25 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | 1.200[#1] | | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.009 | <0.03 | <0.03 | <0.03 | 85 | 16 | 132 | 0 |
| Acenaphthylene | 29.000[#1] | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.03 | <0.03 | <0.03 | 85 | 25 | 13.6 | 0 |
| Acenaphthene | 29.000[#1] | | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | <0.008 | 0.25 | <0.03 | <0.03 | 85 | 22 | 33.9 | 0 |
| Fluorene | 20,000[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.24 | <0.03 | <0.03 | 85 | 20 | 60.5 | 0 |
| Phenanthrene | 6.200[#1] | | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.026 | <0.015 | <0.015 | <0.015 | <0.1 - 0.0962 | 2.8 | 0.14 | 0.09 | 85 | 45 | 281 | 0 |
| Anthracene | 150,000[#1] | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.1 - 0.0289 | 2.7 | 0.14 | <0.03 | 85 | 31 | 66.4 | 0 |
| Fluoranthene | 6,300[#1] | | 0.0452 | <0.017 | <0.017 | <0.017 | <0.017 | <0.017 | 0.0733 | <0.017 | <0.017 | <0.017 | 0.179 - 0.311 | 2.4 | 0.38 | 0.19 | 85 | 50 | 226 | 0 |
| Pyrene | 15.000[#1] | | 0.0395 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.0656 | <0.015 | <0.015 | <0.015 | 0.192 - 0.284 | 1.8 | 0.34 | 0.16 | 85 | 50 | 170 | 0 |
| Benz(a)anthracene | 49[#1] | | 0.0268 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | 0.0339 | <0.014 | <0.014 | <0.014 | <0.1 - 0.17 | 0.53 | 0.12 | 0.05 | 85 | 47 | 67.6 | 2 |
| Chrysene | 93[#1] | | 0.0282 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 0.0387 | <0.01 | <0.01 | <0.01 | 0.141 - 0.156 | 0.52 | 0.16 | 0.08 | 85 | 49 | 61 | 0 |
| Benzo(a) pyrene | 21[#2] | | 0.0299 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.0401 | <0.015 | <0.015 | <0.015 | <0.1 - 0.198 | 0.32 | 0.12 | 0.04 | 85 | 47 | 58 | 3 |
| Indeno(1,2,3-c,d)pyrene | 150[#1] | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | 0.0316 | <0.018 | <0.018 | <0.018 | <0.1 - 0.157 | 0.13 | 0.07 | <0.03 | 85 | 43 | 47.6 | 0 |
| Dibenz(a,h)anthracene | 1.1[#1] | | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.023 | <0.1 - 0.0268 | 0.04 | <0.03 | <0.03 | 84 | 23 | 7.3 | 4 |
| Benzo(g,h,i)perylene | 1,400[#1] | | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | <0.024 | 0.0329 | <0.024 | <0.024 | <0.024 | <0.1 - 0.159 | 0.12 | 0.07 | <0.03 | 85 | 44 | 31.3 | 0 |
| Benzo(b)fluoranthene | 13[#1] | | 0.051 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.0629 | <0.015 | <0.015 | <0.015 | <0.1 - 0.26 | 0.38 | 0.16 | 0.05 | 85 | 49 | 69.7 | 3 |
| Benzo(k)fluoranthene | 370[#1] | | 0.0204 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | 0.0241 | <0.014 | <0.014 | <0.014 | <0.1 - 0.104 | 0.18 | 0.06 | <0.03 | 85 | 42 | 43.2 | 0 |
| Benzo(b)&(k)fluoranthene | | | 0.0714 | <0.029 | <0.029 | <0.029 | <0.029 | <0.029 | 0.087 | <0.029 | <0.029 | <0.029 | 0.364 | 0.56 | 0.22 | 0.08 | 85 | 49 | 112.9 | 0 |
| PAHs (sum of 4) | | | 0.1134 | <0.071 | <0.071 | <0.071 | <0.071 | <0.071 | 0.1515 | <0.071 | <0.071 | <0.071 | 0.68 | 0.81 | 0.36 | 0.14 | 85 | 49 | 180.8 | 0 |
| PAH 16 Total | | | 0.241 | <0.118 | <0.118 | <0.118 | <0.118 | <0.118 | 0.429 | <0.118 | <0.118 | <0.118 | 1.95 | 12 | 1.8 | 0.65 | 74 | 38 | 1050 | 0 |
| PAH 17 Total | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6 | 0 | ND | 0 |
| benzo(g,h,i)perylene + inden | | | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | 0.0645 | <0.042 | <0.042 | <0.042 | 0.316 | 0.25 | 0.14 | <0.06 | 85 | 44 | 78.6 | 0 |
| Benzo(a)pyrene (surrogate m | 4.4[#1] | | 0.0299 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 0.0401 | <0.015 | <0.015 | <0.015 | 0.198 | 0.32 | 0.12 | 0.04 | 85 | 47 | 58 | 4 |
| SVOC | | | | | | | | | | | | | | | | | | | | |
| SVOC TICs | | | - | - | - | - | - | - | - | - | - | - | <1 | - | - | - | 17 | 2 | 340 | 0 |
| Coronene | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 0.254 | 0 |
| 2-chlorophenol | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| 2-methylphenol | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 1 | 0.949 | 0 |
| 2-nitrophenol | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| 2,4-dichlorophenol | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| 2,4-dimethylphenol | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 1 | 3.01 | 0 |
| 2,4,5-trichlorophenol | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| 4-methylphenol | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 1 | 1.34 | 0 |
| 4-nitrophenol | | | - | - | - | - | - | - | - | - | - | - | <0.5 | - | - | - | 25 | 0 | ND | 0 |
| Pentachlorophenol | 110[#1] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Phenol | 440[#1] | | - | - | - | - | - | - | - | - | - | - | <0.01 | <0.3 | <0.3 | <0.3 | 53 | 7 | 1 | 0 |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | TP-H | | | TP-J | | | TP-K | | | | WS72401 | WS72403 | | | | | | |
| | | Depth Range (m) | 0.2 | 0.35 | 0.6 | 0.4 | 0.7 | 1.2 | 0.35 | 0.5 | 0.7 | 1.2 | 0.3 | 0.4-0.4 | 1-1 | 1.5 | | | | |
| | | Date | 03/11/2020 | 05/11/2020 | 03/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 05/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 24/09/2020 | 12/11/2019 | 12/11/2019 | 02/12/2019 | | | | |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | Lab Report Number | 577286 | 577345 | 577286 | 577345 | 577345 | 577290 | 577345 | 577345 | 577345 | 577290 | 571020 | 18/08308 | 19-23362 | 19-25097 | | | | |
| 2-chloronaphthalene | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| 2-methylnaphthalene | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 2 | 41.5 | 0 |
| Bis(2-ethylhexyl) phthalate | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Butyl benzyl phthalate | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Di-n-butyl phthalate | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Di-n-octyl phthalate | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Diethylphthalate | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Dimethyl phthalate | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| 2-nitroaniline | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 17 | 0 | ND | 0 |
| 3-nitroaniline | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 17 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 17 | 0 | ND | 0 |
| 4-chloroaniline | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 17 | 0 | ND | 0 |
| 4-chlorophenyl phenyl ether | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 17 | 0 | ND | 0 |
| 4-nitroaniline | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 17 | 0 | ND | 0 |
| Azobenzene | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 17 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Carbazole | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 2 | 24 | 0 |
| Dibenzofuran | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 2 | 43.8 | 0 |
| Hexachlorocyclopentadiene | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Hexachloroethane | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Isophorone | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Bis(2-chloroisopropyl) ether | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Perylene | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Bis(2-chloroisopropyl)ether | [redacted] | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 17 | 0 | ND | 0 |
| Phenols | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| PCBs | [redacted] | | | | | | | | | | | | | | | | | | | |
| PCB 118 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 28 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 52 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 101 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 138 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 153 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCB 180 | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| PCBs (Sum of total) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 1 | 0.379 | 0 |
| Total PCB 7 Congeners | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Herbicides and Pesticides | [redacted] | | | | | | | | | | | | | | | | | | | |
| Permethrin I | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Quintozene; (PCNB) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Baythroid | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| gamma-HCH | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Aldrin | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| a-BHC | 47[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| b-BHC | 15[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Chlorothalonil | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Chlordane (cis) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Dieldrin | 30[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Endosulfan I | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Endosulfan II | 2,400[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Endosulfan sulphate | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Endrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| g-BHC (Lindane) | 14[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 0 | ND | 0 |
| Heptachlor | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Heptachlor epoxide | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Isodrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| o,p''-DDE | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| o,p''-Methoxychlor | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| o,p-DDD | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| 4,4-DDE | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| DDT | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 0 | ND | 0 |
| Methoxychlor | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| DDD | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Pendimethalin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Permethrin II | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Tecnazene | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Telodrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Chlordane (trans) | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Triadimefon | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Triallate | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Trifluralin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Aldrin + Dieldrin | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Azinphos Ethyl | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Azinophos methyl | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Carbophenothion | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Chlorfenvinphos | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Chlorpyrifos | [redacted] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | Monitoring Zone | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | TP-H | | | TP-J | | | TP-K | | | | WS72401 | WS72403 | | | | | | |
| | | Depth Range (m) | 0.2 | 0.35 | 0.6 | 0.4 | 0.7 | 1.2 | 0.35 | 0.5 | 0.7 | 1.2 | 0.3 | 0.4-0.4 | 1-1 | 1.5 | | | | |
| | | Date | 03/11/2020 | 05/11/2020 | 03/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 05/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 24/09/2020 | 12/11/2019 | 12/11/2019 | 02/12/2019 | | | | |
| | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | Lab Report Number | 577286 | 577345 | 577286 | 577345 | 577345 | 577290 | 577345 | 577345 | 577345 | 577290 | 571020 | 18/08308 | 19-23362 | 19-25097 | | | | |
| Chlorpyrifos-methyl | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Diazinon | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Dichlorvos | 26[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Dimethoate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Ethion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Parathion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Etrimphos | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Fenitrothion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Fenthion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Malathion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Methyl parathion | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Phosalone | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Pirimiphos-methyl | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Propetamphos | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Triazophos | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Disulfoton | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Phorate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 0 | ND | 0 |
| Cyhalothrin/Karate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Cypermethrins(total) | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Deltamethrin | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Fenvalerate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Permethrin | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Aldrin+Dieldrin+Endrin+Isodr | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Atrazine | 2,300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Simazine | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 13 | 0 | ND | 0 |
| Ametryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Atraton | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Prometon | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Prometryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Propazine | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Simetryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Terbutryn | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| p,p-DDT | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| o,p DDT | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Terbutylazine | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| 2,6-dinitrotoluene | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Nitrobenzene | | | - | - | - | - | - | - | - | - | - | - | <0.1 | - | - | - | 25 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | | | | | | |
| Antimony | | | - | - | - | - | - | - | - | - | - | - | <0.6 | <1 | <1 | <1 | 50 | 16 | 4.7 | 0 |
| Arsenic | 170[#2] | | 3.71 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | 3.59 | <0.6 | <0.6 | <0.6 | 1.65 | 4.1 | 4 | 1.3 | 85 | 59 | 7.9 | 0 |
| Barium | | | 36.8 | 10.9 | 9.97 | 15.5 | 16.7 | 7.23 | 46.9 | 7.24 | 8.85 | 6.79 | - | - | - | - | 29 | 29 | 63.3 | 0 |
| Beryllium | 63[#1] | | - | - | - | - | - | - | - | - | - | - | 0.131 | <0.2 | <0.2 | <0.2 | 53 | 41 | 1.08 | 0 |
| Boron | 46,000[#1] | | - | - | - | - | - | - | - | - | - | - | 3.6 | - | - | - | 33 | 33 | 16.5 | 0 |
| Cadmium | 880[#2] | | 0.953 | 0.464 | 0.423 | 0.336 | 0.349 | 0.298 | 1.05 | 0.361 | 0.433 | 0.296 | 0.316 | 0.9 | 0.5 | 0.4 | 85 | 80 | 1.4 | 0 |
| Calcium | | | 271,000 | 445,000 | 475,000 | 460,000 | 443,000 | 390,000 | 256,000 | 354,000 | 450,000 | 388,000 | - | - | - | - | 21 | 21 | 679000 | 0 |
| Chromium (III+VI) | Use either CrIII or CrVI | | 6.24 | 1.86 | 1.23 | 1.59 | 2.01 | <0.9 | 6.17 | <0.9 | 1.23 | <0.9 | 3.75 | - | - | - | 73 | 67 | 33.7 | 0 |
| Copper | 44,000[#1] | | 3.74 | <1.4 | <1.4 | <1.4 | 1.91 | <1.4 | 3.98 | <1.4 | <1.4 | <1.4 | 3.1 | 5.2 | 8.5 | 3.7 | 85 | 69 | 77.3 | 0 |
| Iron | | | 4,930 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | 5,840 | <1,000 | <1,000 | <1,000 | 3,030 | 2,900 | 6,600 | 2,200 | 66 | 49 | 41200 | 0 |
| Lead | 1,300[#2] | | 10.3 | 2.19 | <0.7 | <0.7 | 3.5 | <0.7 | 12.4 | <0.7 | <0.7 | <0.7 | 8.94 | 21 | 16 | 5.7 | 85 | 70 | 263 | 0 |
| Magnesium | | | 1,290 | 947 | 930 | 1,080 | 1,120 | 1,060 | 1,390 | 1,150 | 1,080 | 1,020 | - | - | - | - | 21 | 21 | 1660 | 0 |
| Manganese | | | 626 | 234 | 214 | 218 | 216 | 159 | 850 | 205 | 234 | 192 | 294 | 290 | 310 | 400 | 74 | 74 | 895 | 0 |
| Mercury | 240[#1] | | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.14 | <0.05 | <0.05 | 0.08 | 85 | 18 | 1.03 | 0 |
| Molybdenum | | | 0.186 | <0.1 | <0.1 | <0.1 | <0.1 | 0.104 | 0.184 | <0.1 | 0.123 | <0.1 | <0.1 | <0.4 | <0.4 | <0.4 | 74 | 41 | 1.73 | 0 |
| Nickel | 800[#1] | | 5.94 | 2.57 | 1.81 | 1.62 | 1.97 | 0.82 | 6.43 | 1.08 | 1.37 | 1.11 | 3.89 | 3.5 | 5.2 | 4.3 | 85 | 85 | 32 | 0 |
| Phosphorus | | | 893 | 341 | 333 | 315 | 419 | 237 | 1,250 | 306 | 423 | 266 | 693 | 390 | 430 | 460 | 66 | 66 | 1680 | 0 |
| Selenium | 1,800[#1] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1.1 | <0.5 | 0.6 | 85 | 16 | 8.1 | 0 |
| Sodium | | | 158 | 134 | 137 | 140 | 147 | 174 | 209 | 156 | 148 | 157 | - | - | - | - | 21 | 21 | 209 | 0 |
| Vanadium | 5,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 8 | 24 | 0 |
| Zinc | 170,000[#1] | | 44.1 | 12.7 | 10.8 | 10.4 | 13.1 | 8.61 | 46.7 | 8.25 | 9.46 | 8.41 | 28.2 | 47 | 34 | 27 | 85 | 85 | 366.5 | 0 |
| Boron (Water Soluble) | 46,000[#1] | | - | - | - | - | - | - | - | - | - | - | - | <0.2 | 0.4 | 0.2 | 20 | 12 | 2.1 | 0 |
| Chromium (hexavalent) | 250[#2] | | - | - | - | - | - | - | - | - | - | - | <0.6 | <1 | <1 | <1 | 53 | 0 | ND | 0 |
| Chromium (Trivalent) | 33,000[#1] | | - | - | - | - | - | - | - | - | - | - | 3.75 | 3.8 | 6.7 | 2.8 | 53 | 53 | 33.7 | 0 |
| Inorganics | | | | | | | | | | | | | | | | | | | | |
| Sulphur | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Cyanide (Free) | | | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | 20 | 0 | ND | 0 |
| Cyanide Total | | | - | - | - | - | - | - | - | - | - | - | <1 | <0.1 | 0.1 | <0.1 | 53 | 5 | 1.05 | 0 |
| Fluoride | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 4 | 2 | 0 |
| Sulphate | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 16 | 12 | 117 | 0 |
| Chloride | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 0 | ND | 0 |
| Ammoniacal Nitrogen as N | | | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | 3.3 | 4.5 | 2 | 66 | 17 | 154 | 0 |
| Easily Liberated Sulphide (Mo | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 0 | ND | 0 |
| Soluble Sulphate 2:1 extract a | | | - | - | - | - | - | - | - | - | - | - | - | 0.043 | 0.019 | 0.031 | 12 | 12 | 0.078 | 0 |
| Sulphate (soluble) | | | <0.004 | <0.004 | <0.004 | <0.004 | 0.02 | 0.0042 | <0.004 | 0.0044 | <0.004 | 0.0055 | 0.0216 | - | - | - | 61 | 36 | 1.28 | 0 |
| TDS | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 5 | 793 | 0 |

| | Human Health, Public Open Space-Park, Sandy Loam, 0.58-1.45%TOC | **Monitoring Zone** | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Location** | TP-H | | | TP-J | | | TP-K | | | | WS72401 | WS72403 | | | | | | |
| | | **Depth Range (m)** | 0.2 | 0.35 | 0.6 | 0.4 | 0.7 | 1.2 | 0.35 | 0.5 | 0.7 | 1.2 | 0.3 | 0.4-0.4 | 1-1 | 1.5 | | | | |
| | | **Date** | 03/11/2020 | 05/11/2020 | 03/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 05/11/2020 | 05/11/2020 | 05/11/2020 | 06/11/2020 | 24/09/2020 | 12/11/2019 | 12/11/2019 | 02/12/2019 | | | | |
| | | **Sample Type** | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | **Lab Report Number** | 577286 | 577345 | 577286 | 577345 | 577345 | 577290 | 577345 | 577345 | 577345 | 577290 | 571020 | 18/08308 | 19-23362 | 19-25097 | | | | |
| Other | | | | | | | | | | | | | | | | | | | | |
| Dry Matter (DM) content | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 5 | 80.2 | 0 |
| Loss on ignition | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 3 | 9.5 | 0 |
| ANC at pH 4 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 5 | 16.2 | 0 |
| ANC pH_6 dry soil | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 4 | 0.46 | 0 |
| Organic Matter | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 7 | 4.9 | 0 |
| Moisture | | | 15 | 16 | 19 | 18 | 14 | 22 | 21 | 20 | 20 | 22 | 13 | - | - | - | 65 | 65 | 72 | 0 |
| % Stones >10mm | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 5 | 66.7 | 0 |
| Fraction Organic Carbon | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 7 | 2.83 | 0 |
| pH (Lab) | | | 8.26 | 8.57 | 8.94 | 9.03 | 8.99 | 9.07 | 8.2 | 9.02 | 8.85 | 9.24 | 8.33 | - | - | - | 61 | 61 | 10.1 | 0 |
| TOC | | | 1.69 | 0.227 | <0.2 | 0.246 | 0.238 | <0.2 | 2.42 | <0.2 | 0.237 | <0.2 | 0.643 | 0.4 | 1.6 | 0.4 | 66 | 45 | 13.5 | 0 |
| Asbestos | | | | | | | | | | | | | | | | | | | | |
| Asbestos Identification | | | - | - | - | - | - | - | - | - | - | - | Not Detected | Not Detected | Not Detected | Not Detected | 0 | 0 | ND | 0 |
| Field | | | | | | | | | | | | | | | | | | | | |
| pH | | | - | - | - | - | - | - | - | - | - | - | - | 8.5 | 8.3 | 8.6 | 29 | 29 | 10.5 | 0 |
| Electrical Conductivity | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | 5 | 254 | 0 |

**Env Stds Comments**
#1:LQM/CIEH S4ULs 2015
#2:Defra C4SL 12/2014
GAC: Generic Assessment Criteria
S4UL: Suitable 4 Use Levels
C4SL: Category 4 Screening Levels
(blank): No assessment criteria available

**Key**
XXX Exceedance of Human Health, Public Open Space-Park, Sandy Lc

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 1 | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R70105 | R70107 | R70112 | R70301 | SA501 | STP501 | STP70501 | STP70508 | STP70601 | | | | |
| | | | Depth Range (m) | 0-0.1 | 0.5 | 0.25 | 0.6 | 1-1 | 0.5-0.5 | 0.3-0.3 | 0.5 | 0.5 | | | | |
| | | | Date | 23/09/2020 | 25/09/2020 | 05/10/2020 | 11/09/2020 | 09/03/2017 | 27/02/2017 | 28/09/2020 | 11/09/2020 | 23/09/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 571021 | 580778 | 580694 | 575650 | GIR_2017 | GIR_2017 | 575652 | 575650 | 574116 | | | | |
| **TPH** | | | | | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | <50 | <50 | <50 | - | - | - | <50 | - | <50 | 5 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | 15,000[#1] | | <10 | <10 | <10 | - | <1 | <4 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | 15,000[#1] | | <10 | <10 | <10 | - | <1 | <1 | <10 | - | 18 | 7 | 1 | 18 | 0 |
| >C8-C10 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | - | <1 | <1 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | 300[#1] | | <20 | <20 | <20 | - | <20 | <20 | <20 | - | <20 | 7 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 1[#2] | | <10 | <10 | <10 | - | <1 | <1 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 700[#1] | | <10 | <10 | <10 | - | <1 | <1 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | 300[#1] | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | 300[#1] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | 300[#1] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC16-EC35 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | <10 | - | - | - | <10 | - | 37 | 5 | 1 | 37 | 0 |
| Total Aliphatics | µg/L | | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| VOC | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | 200[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| MTBE | µg/L | 1,800[#4] | | <3 | <3 | <3 | - | <1 | <2 | <3 | - | <3 | 7 | 0 | ND | 0 |
| Chloromethane | µg/L | 190[#3] | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 0.5[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromomethane | µg/L | 7.5[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Chloroethane | µg/L | 21,000[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | 5,200[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 140[#5] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#5] | | - | - | - | - | <5 | <25 | - | - | - | 2 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | 2.8[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | Use '1,2 dichloroethene' criteria[#5] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromochloromethane | µg/L | 83[#3] | | - | - | - | - | <5 | <5 | - | - | - | 2 | 0 | ND | 0 |
| Chloroform | µg/L | Use trihalomethanes[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 2,000[#5] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 3[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 3[#2] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Benzene | µg/L | 1[#2] | | <7 | <7 | <7 | - | <1 | <1 | <7 | - | <7 | 7 | 0 | ND | 0 |
| Trichloroethene | µg/L | Use PCE + TCE[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | 40[#5] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Dibromomethane | µg/L | 8.3[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | Use trihalomethanes[#2] | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Toluene | µg/L | 700[#5] | | <4 | <4 | <4 | - | <1 | <1 | <4 | - | <4 | 7 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 0.28[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | Use PCE + TCE[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | 370[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Sum of PCE and TCE | µg/L | 10[#2] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | Use trihalomethanes[#2] | | - | - | - | - | <3 | <3 | - | - | - | 2 | 0 | ND | 0 |
| Chlorobenzene | µg/L | 300[#5] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | 0.57[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 300[#5] | | <5 | <5 | <5 | - | <1 | <1 | <5 | - | <5 | 7 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | <8 | <8 | <8 | - | <1 | <1 | <8 | - | <8 | 7 | 0 | ND | 0 |
| Xylene Total | µg/L | 500[#5] | | <11 | <11 | <11 | - | <2 | <2 | <11 | - | <11 | 7 | 0 | ND | 0 |
| Xylene (o) | µg/L | 190[#3] | | <3 | <3 | <3 | - | <1 | <1 | <3 | - | <3 | 7 | 0 | ND | 0 |
| Total BTEX | µg/L | | | <28 | <28 | <28 | - | - | - | <28 | - | <28 | 5 | 0 | ND | 0 |
| Styrene | µg/L | 20[#5] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromoform | µg/L | Use trihalomethanes[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | 450[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 0.076[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromobenzene | µg/L | 62[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | 0.00075[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| n-propylbenzene | µg/L | 660[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | 240[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | 60[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | 250[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | 690[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | 56[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| sec-butylbenzene | µg/L | 2,000[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 1 | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R70105 | R70107 | R70112 | R70301 | SA501 | STP501 | STP70501 | STP70508 | STP70601 | | | | |
| | | | Depth Range (m) | 0-0.1 | 0.5 | 0.25 | 0.6 | 1-1 | 0.5-0.5 | 0.3-0.3 | 0.5 | 0.5 | | | | |
| | | | Date | 23/09/2020 | 25/09/2020 | 05/10/2020 | 11/09/2020 | 09/03/2017 | 27/02/2017 | 28/09/2020 | 11/09/2020 | 23/09/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 571021 | 580778 | 580694 | 575650 | GIR_2017 | GIR_2017 | 575652 | 575650 | 574116 | | | | |
| p-isopropyltoluene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | 300[#5] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| n-butylbenzene | µg/L | 1.000[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | 1.000[#5] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | 1[#5] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | <3 | <3 | - | - | - | 2 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.1[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | <3 | <3 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | 50[#5] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-Dibromomethane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Trihalomethanes | µg/L | 100[#2] | | - | - | - | - | <15 | <15 | - | - | - | 2 | 0 | ND | 0 |
| trans-1,2-Dibromoethene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Carbon disulfide | µg/L | 810[#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.1[#2] | | - | - | - | - | <6 | <6 | - | - | - | 2 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | | |
| Naphthalene | µg/L | 6[#4] | | <0.01 | <0.01 | <0.01 | <0.01 | 0.14 | 0.62 | <0.01 | <0.01 | <0.01 | 9 | 2 | 0.62 | 0 |
| Acenaphthylene | µg/L | 18[#4] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Acenaphthene | µg/L | 18[#4] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | 0.08 | <0.005 | <0.005 | <0.005 | 9 | 1 | 0.08 | 0 |
| Fluorene | µg/L | 12[#4] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | 0.04 | <0.005 | <0.005 | <0.005 | 9 | 1 | 0.04 | 0 |
| Phenanthrene | µg/L | 4[#4] | | <0.005 | <0.005 | 0.0107 | <0.005 | <0.02 | 0.05 | 0.0239 | <0.005 | <0.005 | 9 | 3 | 0.05 | 0 |
| Anthracene | µg/L | 90[#4] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | 0.00615 | <0.005 | <0.005 | 9 | 1 | 0.00615 | 0 |
| Fluoranthene | µg/L | 4[#5] | | <0.005 | <0.005 | 0.0241 | <0.005 | <0.02 | 0.07 | 0.134 | <0.005 | <0.005 | 9 | 3 | 0.134 | 0 |
| Pyrene | µg/L | 9[#4] | | <0.005 | <0.005 | 0.00933 | <0.005 | <0.02 | 0.05 | 0.0783 | <0.005 | <0.005 | 9 | 3 | 0.0783 | 0 |
| Benz(a)anthracene | µg/L | 3.5[#4] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Chrysene | µg/L | 7[#4] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(a) pyrene | µg/L | 0.01[#2] | | <0.002 | <0.002 | <0.002 | <0.002 | <0.02 | <0.02 | <0.002 | <0.002 | <0.002 | 9 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | 0.07[#4] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.04 | <0.04 | <0.01 | <0.01 | <0.01 | 9 | 0 | ND | 0 |
| PAHs (sum of 4) | µg/L | 0.1[#2] | | <0.02 | <0.02 | <0.02 | <0.02 | <0.08 | <0.08 | <0.02 | <0.02 | <0.02 | 9 | 0 | ND | 0 |
| PAH 16 Total | µg/L | | | - | - | - | - | 0.14 | 0.91 | - | - | - | 2 | 2 | 0.91 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.04 | <0.04 | <0.01 | <0.01 | <0.01 | 9 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.02 | <0.02 | <0.002 | <0.002 | <0.002 | 9 | 0 | ND | 0 |
| SVOC | | | | | | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 91[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2-methylphenol | µg/L | 930[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 46[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | 360[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | 1.200[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | 200[#5] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 1.400[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 4-methylphenol | µg/L | 1.900[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 9[#5] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Phenol | µg/L | 5.800[#3] | | <2 | <2 | <2 | - | <2 | <2 | <2 | - | <2 | 7 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | 750[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | 36[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 8[#5] | | - | - | - | - | <4 | <4 | - | - | - | 2 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 16[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 900[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 200[#3] | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 15.000[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | 59[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | 0.014[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Carbazole | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Dibenzofuran | µg/L | 7.9[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | 0.41[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Hexachloroethane | µg/L | 0.33[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 1 | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R70105 | R70107 | R70112 | R70301 | SA501 | STP501 | STP70501 | STP70508 | STP70601 | | | | |
| | | | Depth Range (m) | 0-0.1 | 0.5 | 0.25 | 0.6 | 1-1 | 0.5-0.5 | 0.3-0.3 | 0.5 | 0.5 | | | | |
| | | | Date | 23/09/2020 | 25/09/2020 | 05/10/2020 | 11/09/2020 | 09/03/2017 | 27/02/2017 | 28/09/2020 | 11/09/2020 | 23/09/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 571021 | 580778 | 580694 | 575650 | GIR_2017 | GIR_2017 | 575652 | 575650 | 574116 | | | | |
| Isophorone | µg/L | 78[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | 0.011[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Phenols | µg/L | | | - | - | - | - | - | <10 | - | - | - | 1 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | 0.24[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | 0.049[#3] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Nitrobenzene | µg/L | 8 to 63[#5] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | | |
| Antimony | µg/L | 5[#2] | | <1 | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | 8 | 0 | ND | 0 |
| Arsenic | µg/L | 10[#2] | | 0.977 | <0.5 | 1.04 | <0.5 | <1 | <1 | 0.76 | <0.5 | <0.5 | 9 | 3 | 1.04 | 0 |
| Barium | µg/L | 1.300[#5] | | - | - | - | - | - | 18 | - | - | - | 1 | 1 | 18 | 0 |
| Beryllium | µg/L | 12[#5] | | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <0.1 | <0.1 | <0.1 | 9 | 0 | ND | 0 |
| Boron | µg/L | 1.000[#2] | | 30.5 | 16.2 | 39 | <10 | <10 | 10 | 18.6 | <10 | 13.3 | 9 | 6 | 39 | 0 |
| Cadmium | µg/L | 5[#2] | | <0.08 | <0.08 | <0.08 | <0.08 | <1 | <1 | <0.08 | <0.08 | <0.08 | 9 | 0 | ND | 0 |
| Calcium | mg/L | | | 99.7 | 56.4 | 84.5 | 41.7 | 7 | 18 | 61.1 | 36.4 | 54 | 9 | 9 | 99.7 | 0 |
| Chromium (III+VI) | µg/L | 50[#2] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1.58 | <1 | 9 | 1 | 1.58 | 0 |
| Copper | µg/L | 2.000[#2] | | 9.01 | 2.22 | 10.2 | 3.63 | <1 | <1 | 4.9 | 3.15 | 3.13 | 9 | 7 | 10.2 | 0 |
| Iron | µg/L | 200[#2] | | <19 | <19 | <19 | **241** | - | - | <19 | **516** | <19 | 7 | 2 | 516 | 2 |
| Lead | µg/L | 10[#2] | | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <1 | <0.2 | <0.2 | <0.2 | 9 | 0 | ND | 0 |
| Magnesium | mg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Manganese | µg/L | 50[#2] | | <3 | <3 | <3 | <3 | 1 | <1 | <3 | <3 | <3 | 9 | 1 | 1 | 0 |
| Mercury | µg/L | 1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.1 | <0.1 | <0.01 | <0.01 | <0.01 | 9 | 0 | ND | 0 |
| Molybdenum | µg/L | 70[#5] | | <3 | <3 | <3 | <3 | <1 | <1 | <3 | <3 | <3 | 9 | 0 | ND | 0 |
| Nickel | µg/L | 20[#2] | | 1.24 | 0.797 | 1.33 | 0.696 | <1 | <1 | 1.08 | 0.686 | 1.11 | 9 | 7 | 1.33 | 0 |
| Phosphorus | µg/L | 0.4[#3] | | **126** | **60.1** | **170** | **18** | **73** | **45** | **57.4** | **44.5** | **29.4** | 9 | 9 | 170 | 9 |
| Selenium | µg/L | 10[#2] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 9 | 0 | ND | 0 |
| Sodium | mg/L | 200[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Zinc | µg/L | 6.000[#3] | | 7.21 | 1.44 | 5.39 | <1 | 2 | <1 | 3.75 | <1 | 4.07 | 9 | 6 | 7.21 | 0 |
| Potassium | mg/L | | | - | - | - | - | <1 | 1 | - | - | - | 2 | 1 | 1 | 0 |
| Chromium (hexavalent) | µg/L | Use Chromium (total)[#2] | | <30 | <30 | <30 | <30 | <50 | <50 | <30 | <30 | <30 | 9 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | Use Chromium (total)[#2] | | <30 | <30 | <30 | - | <50 | <50 | <30 | <30 | <30 | 8 | 0 | ND | 0 |
| Inorganics | | | | | | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | - | 0.04 | 0.03 | - | - | - | 2 | 2 | 0.04 | 0 |
| Cyanide (Free) | mg/L | Use Cyanide Total[#2] | | <0.05 | <0.05 | <0.05 | <0.05 | <0.005 | <0.005 | <0.05 | <0.05 | <0.05 | 9 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.05[#2] | | <0.05 | <0.05 | <0.05 | <0.05 | <0.005 | <0.005 | <0.05 | <0.05 | <0.05 | 9 | 0 | ND | 0 |
| Fluoride | mg/L | 1.5[#2] | | - | - | - | - | - | 0.45 | - | - | - | 1 | 1 | 0.45 | 0 |
| Sulphate | mg/L | 250[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Chloride | mg/L | 250[#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Nitrate (as NO3-) | mg/L | 50[#2] | | - | - | - | - | <0.1 | 2.8 | - | - | - | 2 | 1 | 2.8 | 0 |
| Nitrite (as NO2-) | mg/L | 0.5[#2] | | - | - | - | - | <0.1 | <0.1 | - | - | - | 2 | 0 | ND | 0 |
| Ammoniacal Nitrogen as N | mg/L | | | <0.2 | <0.2 | <0.2 | <0.2 | - | - | <0.2 | <0.2 | <0.2 | 7 | 0 | ND | 0 |
| Sulphate (soluble) | mg/L | | | 15.9 | 4.8 | <2 | 3.1 | - | - | 10.9 | <2 | 12.4 | 7 | 5 | 15.9 | 0 |
| TDS | mg/L | | | - | - | - | 62.2 | - | 77 | - | - | - | 2 | 2 | 77 | 0 |
| Other | | | | | | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 13.1 | 8.32 | 10.3 | 3.55 - 4.7 | 1.1 | 4.6 | 8 | 6.39 | 6.81 | 9 | 9 | 13.1 | 0 |
| pH (Lab) | pH_Units | | | 8.22 | 8.34 | 8.14 | 8.33 | - | - | 8.37 | 8.28 | 8.34 | 7 | 7 | 8.37 | 0 |
| Biological | | | | | | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | - | 0 | 0 | - | - | - | 2 | 2 | ND | 0 |
| Coliform | cfu/100ml | | | - | - | - | - | 0 | 0 | - | - | - | 2 | 2 | ND | 0 |
| Dissolved Gases | | | | | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | - | - | <1.3 | 2.3 | - | - | - | 2 | 1 | 2.3 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | - | - | <2 | 1 | - | - | - | 2 | 1 | 1 | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Field | | | | | | | | | | | | | | | | |
| Temp | oC | | | 20.1 | 21.5 | 20.8 | 20.6 | - | - | 18 | 20.8 | 19.3 | 7 | 7 | 21.5 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:USEPA RSL (tapwater) [May 2020]
#4:AECOM DWG (WHO method)
#5:WHO DWG 2017
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limit value not present refer to value with '<' symbol.

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 1 | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R70105 | R70107 | R70112 | R70301 | SA501 | STP501 | STP70501 | STP70508 | STP70601 | | | | |
| | | | Depth Range (m) | 0-0.1 | 0.5 | 0.25 | 0.6 | 1-1 | 0.5-0.5 | 0.3-0.3 | 0.5 | 0.5 | | | | |
| | | | Date | 23/09/2020 | 25/09/2020 | 05/10/2020 | 11/09/2020 | 09/03/2017 | 27/02/2017 | 28/09/2020 | 11/09/2020 | 23/09/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 571021 | 580778 | 580694 | 575650 | GIR_2017 | GIR_2017 | 575652 | 575650 | 574116 | | | | |
| **TPH** | | | | | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | <50 | <50 | <50 | - | - | - | <50 | - | <50 | 5 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | | | <10 | <10 | <10 | - | <1 | <4 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | | | <10 | <10 | <10 | - | <1 | <1 | <10 | - | 18 | 7 | 1 | 18 | 0 |
| >C8-C10 Aliphatics | µg/L | | | <10 | <10 | <10 | - | <1 | <1 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | | | <20 | <20 | <20 | - | <20 | <20 | <20 | - | <20 | 7 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 10 [#1] | | <10 | <10 | <10 | - | <1 | <1 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 74 [#2] | | <10 | <10 | <10 | - | <1 | <1 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | <10 | 7 | 0 | ND | 0 |
| >EC16-EC35 Aromatics | µg/L | | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | | | <10 | <10 | <10 | - | - | - | <10 | - | <10 | 5 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | <10 | - | - | - | <10 | - | 37 | 5 | 1 | 37 | 0 |
| Total Aliphatics | µg/L | | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| VOC | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| MTBE | µg/L | 5,100 [#3] | | <3 | <3 | <3 | - | <1 | <2 | <3 | - | <3 | 7 | 0 | ND | 0 |
| Chloromethane | µg/L | | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 77 [#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromomethane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Chloroethane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 9 [#3] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20 [#1] | | - | - | - | - | <5 | <25 | - | - | - | 2 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromochloromethane | µg/L | | | - | - | - | - | <5 | <5 | - | - | - | 2 | 0 | ND | 0 |
| Chloroform | µg/L | 2.5 [#1] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 100 [#4] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 12 [#1] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 10 [#1] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Benzene | µg/L | 10 [#1] | | <7 | <7 | <7 | - | <1 | <1 | <7 | - | <7 | 7 | 0 | ND | 0 |
| Trichloroethene | µg/L | 10 [#1] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Dibromomethane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Toluene | µg/L | 74 [#2] | | <4 | <4 | <4 | - | <1 | <1 | <4 | - | <4 | 7 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 400 [#4] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | 10 [#1] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Sum of PCE and TCE | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | | | - | - | - | - | <3 | <3 | - | - | - | 2 | 0 | ND | 0 |
| Chlorobenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 20 [#4] | | <5 | <5 | <5 | - | <1 | <1 | <5 | - | <5 | 7 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | <8 | <8 | <8 | - | <1 | <1 | <8 | - | <8 | 7 | 0 | ND | 0 |
| Xylene Total | µg/L | 30 [#4] | | <11 | <11 | <11 | - | <2 | <2 | <11 | - | <11 | 7 | 0 | ND | 0 |
| Xylene (o) | µg/L | | | <3 | <3 | <3 | - | <1 | <1 | <3 | - | <3 | 7 | 0 | ND | 0 |
| Total BTEX | µg/L | | | <28 | <28 | <28 | - | - | - | <28 | - | <28 | 5 | 0 | ND | 0 |
| Styrene | µg/L | 50 [#4] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromoform | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 140 [#2] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Bromobenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| n-propylbenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| sec-butylbenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| p-isopropyltoluene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 1 | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R70105 | R70107 | R70112 | R70301 | SA501 | STP501 | STP70501 | STP70508 | STP70601 | | | | |
| | | | Depth Range (m) | 0-0.1 | 0.5 | 0.25 | 0.6 | 1-1 | 0.5-0.5 | 0.3-0.3 | 0.5 | 0.5 | | | | |
| | | | Date | 23/09/2020 | 25/09/2020 | 05/10/2020 | 11/09/2020 | 09/03/2017 | 27/02/2017 | 28/09/2020 | 11/09/2020 | 23/09/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 571021 | 580778 | 580694 | 575650 | GIR_2017 | GIR_2017 | 575652 | 575650 | 574116 | | | | |
| 1,3-dichlorobenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| n-butylbenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | - | - | - | - | <3 | <3 | - | - | - | 2 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.6[#6] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | - | - | - | - | <3 | <3 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| 1,2-Dibromomethane | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Trihalomethanes | µg/L | | | - | - | - | - | <15 | <15 | - | - | - | 2 | 0 | ND | 0 |
| trans-1,2-Dibromoethene | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Carbon disulfide | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.05[#6] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.4[#1] | | - | - | - | - | <6 | <6 | - | - | - | 2 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | | <0.01 | <0.01 | <0.01 | <0.01 | 0.14 | 0.62 | <0.01 | <0.01 | <0.01 | 9 | 2 | 0.62 | 0 |
| Acenaphthylene | µg/L | | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Acenaphthene | µg/L | | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | 0.08 | <0.005 | <0.005 | <0.005 | 9 | 1 | 0.08 | 0 |
| Fluorene | µg/L | | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | 0.04 | <0.005 | <0.005 | <0.005 | 9 | 1 | 0.04 | 0 |
| Phenanthrene | µg/L | | | <0.005 | <0.005 | 0.0107 | <0.005 | <0.02 | 0.05 | 0.0239 | <0.005 | <0.005 | 9 | 3 | 0.05 | 0 |
| Anthracene | µg/L | 0.1[#1] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | 0.00615 | <0.005 | <0.005 | 9 | 1 | 0.00615 | 0 |
| Fluoranthene | µg/L | 0.0063[#1] | | <0.005 | <0.005 | **0.0241** | <0.005 | <0.02 | **0.07** | **0.134** | <0.005 | <0.005 | 9 | 3 | 0.134 | 3 |
| Pyrene | µg/L | | | <0.005 | <0.005 | 0.00933 | <0.005 | <0.02 | 0.05 | 0.0783 | <0.005 | <0.005 | 9 | 3 | 0.0783 | 0 |
| Benz(a)anthracene | µg/L | | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Chrysene | µg/L | | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | | <0.002 | <0.002 | <0.002 | <0.002 | <0.02 | <0.02 | <0.002 | <0.002 | <0.002 | 9 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | 0.017[#6] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | 0.017[#6] | | <0.005 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.005 | 9 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.04 | <0.04 | <0.01 | <0.01 | <0.01 | 9 | 0 | ND | 0 |
| PAHs (sum of 4) | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | <0.08 | <0.08 | <0.02 | <0.02 | <0.02 | 9 | 0 | ND | 0 |
| PAH 16 Total | µg/L | | | - | - | - | - | 0.14 | 0.91 | - | - | - | 2 | 2 | 0.91 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.01 | <0.01 | <0.01 | <0.01 | <0.04 | <0.04 | <0.01 | <0.01 | <0.01 | 9 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.02 | <0.02 | <0.002 | <0.002 | <0.002 | 9 | 0 | ND | 0 |
| SVOC | | | | | | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 50[#4] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2-methylphenol | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 4.2[#2] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 40[#4] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 4-methylphenol | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 0.4[#1] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Phenol | µg/L | 7.7[#2] | | <2 | <2 | <2 | - | <2 | <2 | <2 | - | <2 | 7 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 1.3[#1] | | - | - | - | - | <4 | <4 | - | - | - | 2 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 7.5[#2] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 8[#4] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 20[#4] | | - | - | - | - | <10 | <10 | - | - | - | 2 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 200[#4] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | 800[#4] | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Carbazole | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Dibenzofuran | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Hexachloroethane | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 1 | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R70105 | R70107 | R70112 | R70301 | SA501 | STP501 | STP70501 | STP70508 | STP70601 | | | | |
| | | | Depth Range (m) | 0-0.1 | 0.5 | 0.25 | 0.6 | 1-1 | 0.5-0.5 | 0.3-0.3 | 0.5 | 0.5 | | | | |
| | | | Date | 23/09/2020 | 25/09/2020 | 05/10/2020 | 11/09/2020 | 09/03/2017 | 27/02/2017 | 28/09/2020 | 11/09/2020 | 23/09/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 571021 | 580778 | 580694 | 575650 | GIR_2017 | GIR_2017 | 575652 | 575650 | 574116 | | | | |
| Isophorone | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Phenols | µg/L | | | - | - | - | - | - | <10 | - | - | - | 1 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Nitrobenzene | µg/L | | | - | - | - | - | <2 | <2 | - | - | - | 2 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | | |
| Antimony | µg/L | | | <1 | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | 8 | 0 | ND | 0 |
| Arsenic | µg/L | 50 [#2] | | 0.977 | <0.5 | 1.04 | <0.5 | <1 | <1 | 0.76 | <0.5 | <0.5 | 9 | 3 | 1.04 | 0 |
| Barium | µg/L | | | - | - | - | - | - | 18 | - | - | - | 1 | 1 | 18 | 0 |
| Beryllium | µg/L | | | <0.1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <0.1 | <0.1 | <0.1 | 9 | 0 | ND | 0 |
| Boron | µg/L | 2,000 [#4] | | 30.5 | 16.2 | 39 | <10 | <10 | 10 | 18.6 | <10 | 13.3 | 9 | 6 | 39 | 0 |
| Cadmium | µg/L | 0.08 [#1] | | <0.08 | <0.08 | <0.08 | <0.08 | <1 | <1 | <0.08 | <0.08 | <0.08 | 9 | 0 | ND | 0 |
| Calcium | mg/L | | | 99.7 | 56.4 | 84.5 | 41.7 | 7 | 18 | 61.1 | 36.4 | 54 | 9 | 9 | 99.7 | 0 |
| Chromium (III+VI) | µg/L | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1.58 | <1 | 9 | 1 | 1.58 | 0 |
| Copper | µg/L | 1 [#2] | | **9.01** | **2.22** | **10.2** | **3.63** | <1 | <1 | **4.9** | **3.15** | **3.13** | 9 | 7 | 10.2 | 7 |
| Iron | µg/L | 1,000 [#2] | | <19 | <19 | <19 | 241 | - | - | <19 | 516 | <19 | 7 | 2 | 516 | 0 |
| Lead | µg/L | 1.2 [#1] | | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <1 | <0.2 | <0.2 | <0.2 | 9 | 0 | ND | 0 |
| Magnesium | mg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Manganese | µg/L | 123 [#2] | | <3 | <3 | <3 | <3 | 1 | <1 | <3 | <3 | <3 | 9 | 1 | 1 | 0 |
| Mercury | µg/L | 0.07 [#6] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.1 | <0.1 | <0.01 | <0.01 | <0.01 | 9 | 0 | ND | 0 |
| Molybdenum | µg/L | | | <3 | <3 | <3 | <3 | <1 | <1 | <3 | <3 | <3 | 9 | 0 | ND | 0 |
| Nickel | µg/L | 4 [#1] | | 1.24 | 0.797 | 1.33 | 0.696 | <1 | <1 | 1.08 | 0.686 | 1.11 | 9 | 7 | 1.33 | 0 |
| Phosphorus | µg/L | See source document [#1] | | 126 | 60.1 | 170 | 18 | 73 | 45 | 57.4 | 44.5 | 29.4 | 9 | 9 | 170 | 0 |
| Selenium | µg/L | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 9 | 0 | ND | 0 |
| Sodium | mg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Zinc | µg/L | 10.9 [#2] | | 7.21 | 1.44 | 5.39 | <1 | 2 | <1 | 3.75 | <1 | 4.07 | 9 | 6 | 7.21 | 0 |
| Potassium | mg/L | | | - | - | - | - | <1 | 1 | - | - | - | 2 | 1 | 1 | 0 |
| Chromium (hexavalent) | µg/L | 3.4 [#2] | | <30 | <30 | <30 | <30 | <50 | <50 | <30 | <30 | <30 | 9 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | 4.7 [#2] | | <30 | <30 | <30 | - | <50 | <50 | <30 | <30 | <30 | 8 | 0 | ND | 0 |
| Inorganics | | | | | | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | - | 0.04 | 0.03 | - | - | - | 2 | 2 | 0.04 | 0 |
| Cyanide (Free) | mg/L | 0.001 [#4] | | <0.05 | <0.05 | <0.05 | <0.05 | <0.005 | <0.005 | <0.05 | <0.05 | <0.05 | 9 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.001 [#2] | | <0.05 | <0.05 | <0.05 | <0.05 | <0.005 | <0.005 | <0.05 | <0.05 | <0.05 | 9 | 0 | ND | 0 |
| Fluoride | mg/L | 1 [#4] | | - | - | - | - | - | 0.45 | - | - | - | 1 | 1 | 0.45 | 0 |
| Sulphate | mg/L | 400 [#4] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Chloride | mg/L | 250 [#4] | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Nitrate (as NO3-) | mg/L | | | - | - | - | - | <0.1 | 2.8 | - | - | - | 2 | 1 | 2.8 | 0 |
| Nitrite (as NO2-) | mg/L | | | - | - | - | - | <0.1 | <0.1 | - | - | - | 2 | 0 | ND | 0 |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen) [#2] | | <0.2 | <0.2 | <0.2 | <0.2 | - | - | <0.2 | <0.2 | <0.2 | 7 | 0 | ND | 0 |
| Sulphate (soluble) | mg/L | | | 15.9 | 4.8 | <2 | 3.1 | - | - | 10.9 | <2 | 12.4 | 7 | 5 | 15.9 | 0 |
| TDS | mg/L | | | - | - | - | 62.2 | - | 77 | - | - | - | 2 | 2 | 77 | 0 |
| Other | | | | | | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 13.1 | 8.32 | 10.3 | 3.55 - 4.7 | 1.1 | 4.6 | 8 | 6.39 | 6.81 | 9 | 9 | 13.1 | 0 |
| pH (Lab) | pH_Units | | | 8.22 | 8.34 | 8.14 | 8.33 | - | - | 8.37 | 8.28 | 8.34 | 7 | 7 | 8.37 | 0 |
| Biological | | | | | | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | - | 0 | 0 | - | - | - | 2 | 2 | ND | 0 |
| Coliform | cfu/100ml | | | - | - | - | - | 0 | 0 | - | - | - | 2 | 2 | ND | 0 |
| Dissolved Gases | | | | | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | - | - | <1.3 | 2.3 | - | - | - | 2 | 1 | 2.3 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | - | - | <2 | 1 | - | - | - | 2 | 1 | 1 | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | - | - | <1 | <1 | - | - | - | 2 | 0 | ND | 0 |
| Field | | | | | | | | | | | | | | | | |
| Temp | oC | | | 20.1 | 21.5 | 20.8 | 20.6 | - | - | 18 | 20.8 | 19.3 | 7 | 7 | 21.5 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limit value not present refer to value with '<' symbol

**Key**
**XXX** Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 2 | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71202 | R71203 | R71204 | R71301 | R71803 | SA503A | STP71402 | STP71602 | | | | |
| | | | Depth Range (m) | 0.5 | 1-1.1 | 0.2 | 35.5-35.72 | 0.2 | 0.5-0.5 | 0.2 | 0.2 | | | | |
| | | | Date | 11/09/2019 | 18/09/2020 | 11/09/2019 | 01/07/2019 | 11/09/2019 | 14/03/2017 | 16/09/2019 | 13/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-18439 | 576005 | 19-18439 | 19-13973 | 19-18439 | GIR_2017 | 19-18693 | 19-18652 | | | | |
| **TPH** | | | | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | - | <50 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | 15,000[#1] | | <0.1 | <10 | <0.1 | - | <0.1 | <1 | <0.1 | <0.1 | 7 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | 15,000[#1] | | <0.1 | <10 | <0.1 | - | <0.1 | <1 | <0.1 | <0.1 | 7 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | 300[#1] | | <0.1 | <10 | <0.1 | - | <0.1 | <1 | <0.1 | <0.1 | 7 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | 300[#1] | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | 300[#1] | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | 300[#1] | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | 300[#1] | | <2 | <20 | <2 | - | <2 | <20 | <2 | <2 | 7 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | 300[#1] | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >C5-C35 Aliphatics | µg/L | | | <10 | - | <10 | - | <10 | - | <10 | <10 | 5 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | | - | <10 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >C6-C7 Aromatics | µg/L | 1[#2] | | <0.1 | - | <0.1 | - | <0.1 | - | <0.1 | <0.1 | 5 | 0 | ND | 0 |
| >C7-C8 Aromatics | µg/L | 700[#1] | | <0.1 | - | <0.1 | - | <0.1 | - | <0.1 | <0.1 | 5 | 0 | ND | 0 |
| >C8 -C10 Aromatics | µg/L | 300[#1] | | <0.1 | - | <0.1 | - | <0.1 | - | <0.1 | <0.1 | 5 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 1[#2] | | - | <10 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 700[#1] | | - | <10 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | 300[#1] | | - | <10 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | 300[#1] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | 300[#1] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | 90[#1] | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | 90[#1] | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | 90[#1] | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >EC16-EC35 Aromatics | µg/L | 90[#1] | | - | <10 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | 90[#1] | | <1 | <10 | <1 | - | <1 | - | <1 | <1 | 6 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | | | - | <10 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >C5-C35 Aromatics | µg/L | | | <10 | - | <10 | - | <10 | - | <10 | <10 | 5 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | <10 | - | <10 | - | <10 | <10 | 6 | 0 | ND | 0 |
| Total Aliphatics | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| VOC | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | 200[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| MTBE | µg/L | 1,800[#4] | | <1 | <3 | <1 | - | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Chloromethane | µg/L | 190[#3] | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 0.5[#2] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromomethane | µg/L | 7.5[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Chloroethane | µg/L | 21,000[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | 5,200[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 140[#5] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#5] | | - | - | - | - | - | <5 | - | - | 1 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | 2.8[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | Use '1,2 dichloroethene' criteria[#5] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromochloromethane | µg/L | 83[#3] | | - | - | - | - | - | <5 | - | - | 1 | 0 | ND | 0 |
| Chloroform | µg/L | Use trihalomethanes[#2] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 2,000[#5] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 3[#2] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 3[#2] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Benzene | µg/L | 1[#2] | | <1 | <7 | <1 | - | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Trichloroethene | µg/L | Use PCE + TCE[#2] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | 40[#5] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Dibromomethane | µg/L | 8.3[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | Use trihalomethanes[#2] | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Toluene | µg/L | 700[#5] | | <1 | <4 | <1 | - | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 0.28[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | Use PCE + TCE[#2] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | 370[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Sum of PCE and TCE | µg/L | 10[#2] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | Use trihalomethanes[#2] | | - | - | - | - | - | <3 | - | - | 1 | 0 | ND | 0 |
| Chlorobenzene | µg/L | 300[#5] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | 0.57[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 300[#5] | | <1 | <5 | <1 | - | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | - | <8 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| Xylene Total | µg/L | 500[#5] | | <1 | <11 | <1 | - | <1 | <2 | <1 | <1 | 7 | 0 | ND | 0 |
| Xylene (o) | µg/L | 190[#3] | | - | <3 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| Total BTEX | µg/L | | | - | <28 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Styrene | µg/L | 20[#5] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromoform | µg/L | Use trihalomethanes[#2] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | 450[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 0.076[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromobenzene | µg/L | 62[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | 0.00075[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| n-propylbenzene | µg/L | 660[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 2 | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71202 | R71203 | R71204 | R71301 | R71803 | SA503A | STP71402 | STP71602 | | | | |
| | | | Depth Range (m) | 0.5 | 1-1.1 | 0.2 | 35.5-35.72 | 0.2 | 0.5-0.5 | 0.2 | 0.2 | | | | |
| | | | Date | 11/09/2019 | 18/09/2020 | 11/09/2019 | 01/07/2019 | 11/09/2019 | 14/03/2017 | 16/09/2019 | 13/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-18439 | 576005 | 19-18439 | 19-13973 | 19-18439 | GIR_2017 | 19-18693 | 19-18652 | | | | |
| 2-chlorotoluene | µg/L | 240[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | 60[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | 250[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | 690[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | 56[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| sec-butylbenzene | µg/L | 2,000[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| p-isopropyltoluene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | 300[#5] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| n-butylbenzene | µg/L | 1,000[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | 1,000[#5] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | 1[#5] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | - | <3 | - | - | 1 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.1[#2] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | - | <3 | - | - | 1 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | 50[#5] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-Dibromomethane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Trihalomethanes | µg/L | 100[#2] | | - | - | - | - | - | <15 | - | - | 1 | 0 | ND | 0 |
| trans-1,2-Dibromoethene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Carbon disulfide | µg/L | 810[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.1[#2] | | - | - | - | - | - | <6 | - | - | 1 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | |
| Naphthalene | µg/L | 6[#4] | | <0.05 | <0.01 | <0.05 | - | <0.05 | 0.4 | <0.05 | <0.05 | 7 | 1 | 0.4 | 0 |
| Acenaphthylene | µg/L | 18[#4] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Acenaphthene | µg/L | 18[#4] | | <0.01 | <0.005 | <0.01 | - | <0.01 | 0.11 | <0.01 | <0.01 | 7 | 1 | 0.11 | 0 |
| Fluorene | µg/L | 12[#4] | | <0.01 | <0.005 | <0.01 | - | <0.01 | 0.04 | <0.01 | <0.01 | 7 | 1 | 0.04 | 0 |
| Phenanthrene | µg/L | 4[#4] | | 0.02 | 0.0156 | 0.01 | - | 0.01 | <0.02 | 0.01 | 0.01 | 7 | 6 | 0.02 | 0 |
| Anthracene | µg/L | 90[#4] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | 0.01 | 7 | 1 | 0.01 | 0 |
| Fluoranthene | µg/L | 4[#5] | | 0.03 | 0.0156 | 0.02 | - | 0.01 | <0.02 | 0.01 | 0.02 | 7 | 6 | 0.03 | 0 |
| Pyrene | µg/L | 9[#4] | | 0.03 | 0.00683 | 0.02 | - | 0.02 | <0.02 | 0.01 | 0.02 | 7 | 6 | 0.03 | 0 |
| Benz(a)anthracene | µg/L | 3.5[#4] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Chrysene | µg/L | 7[#4] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Benzo(a) pyrene | µg/L | 0.01[#2] | | <0.01 | <0.002 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | 0.07[#4] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | | 0.02 | <0.005 | 0.01 | - | 0.01 | <0.02 | <0.01 | 0.01 | 7 | 4 | 0.02 | 0 |
| Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.02 | <0.01 | <0.02 | - | <0.02 | <0.04 | <0.02 | <0.02 | 7 | 0 | ND | 0 |
| PAHs (sum of 4) | µg/L | 0.1[#2] | | 0.05 | <0.02 | 0.04 | - | 0.04 | <0.08 | <0.04 | 0.04 | 7 | 4 | 0.05 | 0 |
| PAH 16 Total | µg/L | | | <0.2 | - | <0.2 | - | <0.2 | 0.55 | <0.2 | <0.2 | 6 | 1 | 0.55 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | 0.03 | <0.01 | 0.02 | - | 0.02 | <0.04 | <0.02 | 0.02 | 7 | 4 | 0.03 | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.01 | <0.002 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| SVOC | | | | | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 91[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2-methylphenol | µg/L | 930[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 46[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | 360[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | 1,200[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | 200[#5] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 1,400[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 4-methylphenol | µg/L | 1,900[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 9[#5] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Phenol | µg/L | 5,800[#3] | | <100 | <2 | <100 | - | <100 | <2 | <100 | <100 | 7 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | 750[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | 36[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 8[#5] | | - | - | - | - | - | <4 | - | - | 1 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 16[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 900[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 200[#3] | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 15,000[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | 59[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | 0.014[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Carbazole | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Dibenzofuran | µg/L | 7.9[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | 0.41[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Hexachloroethane | µg/L | 0.33[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Isophorone | µg/L | 78[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | 0.011[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Phenols | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 2 | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71202 | R71203 | R71204 | R71301 | R71803 | SA503A | STP71402 | STP71602 | | | | |
| | | | Depth Range (m) | 0.5 | 1-1.1 | 0.2 | 35.5-35.72 | 0.2 | 0.5-0.5 | 0.2 | 0.2 | | | | |
| | | | Date | 11/09/2019 | 18/09/2020 | 11/09/2019 | 01/07/2019 | 11/09/2019 | 14/03/2017 | 16/09/2019 | 13/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-18439 | 576005 | 19-18439 | 19-13973 | 19-18439 | GIR_2017 | 19-18693 | 19-18652 | | | | |
| 2,4-Dinitrotoluene | µg/L | 0.24[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | 0.049[#3] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Nitrobenzene | µg/L | 8 to 63[#5] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | |
| Antimony | µg/L | 5[#2] | | 0.26 | <1 | 0.61 | - | 0.23 | <1 | 0.22 | 0.18 | 7 | 5 | 0.61 | 0 |
| Arsenic | µg/L | 10[#2] | | 1.1 | <0.5 | 0.86 | - | 0.71 | <1 | 0.84 | 1.2 | 7 | 5 | 1.2 | 0 |
| Barium | µg/L | 1.300[#5] | | - | - | - | - | - | 6 | - | - | 1 | 1 | 6 | 0 |
| Beryllium | µg/L | 12[#5] | | <0.1 | <0.1 | <0.1 | - | <0.1 | <1 | <0.1 | <0.1 | 7 | 0 | ND | 0 |
| Boron | µg/L | 1.000[#2] | | 13 | 11.8 | 18 | - | 26 | <10 | 39 | <12 | 7 | 5 | 39 | 0 |
| Cadmium | µg/L | 5[#2] | | <0.03 | <0.08 | <0.03 | - | <0.03 | <1 | <0.03 | <0.03 | 7 | 0 | ND | 0 |
| Calcium | mg/L | | | 7.8 | 17.6 | 5 | 2.2 | 13 | 17 | 8.7 | 1.7 | 8 | 8 | 17.6 | 0 |
| Chromium (III+VI) | µg/L | 50[#2] | | - | <1 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| Copper | µg/L | 2.000[#2] | | 1.9 | 2.38 | 1.5 | - | 0.8 | <1 | 2.3 | 0.7 | 7 | 6 | 2.38 | 0 |
| Iron | µg/L | 200[#2] | | 180 | <19 | 120 | - | 20 | - | **400** | **350** | 6 | 5 | 400 | 2 |
| Lead | µg/L | 10[#2] | | 0.45 | <0.2 | 0.46 | - | 0.17 | <1 | 1.3 | 0.86 | 7 | 5 | 1.3 | 0 |
| Magnesium | mg/L | | | - | - | - | 0.39 | - | <1 | - | - | 2 | 1 | 0.39 | 0 |
| Manganese | µg/L | 50[#2] | | 1.6 | <3 | 0.62 | - | 1.5 | 1 | **120** | 3 | 7 | 6 | 120 | 1 |
| Mercury | µg/L | 1[#2] | | 0.01 | <0.01 | 0.03 | - | <0.01 | <0.1 | <0.01 | 0.01 | 7 | 3 | 0.03 | 0 |
| Molybdenum | µg/L | 70[#5] | | 1.5 | <3 | <1.1 | - | <1.1 | <1 | <1.1 | <1.1 | 7 | 1 | 1.5 | 0 |
| Nickel | µg/L | 20[#2] | | <0.5 | 0.457 | <0.5 | - | <0.5 | <1 | 0.9 | <0.5 | 7 | 2 | 0.9 | 0 |
| Phosphorus | µg/L | 0.4[#3] | | - | **24.2** | - | **110** | - | **177** | - | - | 3 | 3 | 177 | 3 |
| Selenium | µg/L | 10[#2] | | 0.84 | <1 | 0.79 | - | 0.66 | <1 | <0.25 | <0.25 | 7 | 3 | 0.84 | 0 |
| Sodium | mg/L | 200[#2] | | - | - | - | 1.6 | - | <1 | - | - | 2 | 1 | 1.6 | 0 |
| Zinc | µg/L | 6.000[#3] | | 2.4 | 1.64 | 2.1 | - | 1.8 | 1 | 16 | 3.3 | 7 | 7 | 16 | 0 |
| Potassium | mg/L | | | - | - | - | 0.2 | - | <1 | - | - | 2 | 1 | 0.2 | 0 |
| Chromium (hexavalent) | µg/L | Use Chromium (total)[#2] | | <7 | <30 | <7 | - | <7 | <50 | <7 | <7 | 7 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | Use Chromium (total)[#2] | | <1 | <30 | <1 | - | <1 | <50 | <1 | <1 | 7 | 0 | ND | 0 |
| Inorganics | | | | | | | | | | | | | | | |
| Sulphate, Total Potential as SO4 | µg/l | | | 1,900 | - | 2,100 | 2,600 | 4,700 | - | 3,000 | 2,100 | 6 | 6 | 4700 | 0 |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | - | - | <0.02 | - | - | 1 | 0 | ND | 0 |
| Cyanide (Free) | mg/L | Use Cyanide Total[#2] | | <0.0001 | <0.05 | <0.0001 | - | <0.0001 | <0.005 | <0.0001 | <0.0001 | 7 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.05[#2] | | - | <0.05 | - | - | - | <0.005 | - | - | 2 | 0 | ND | 0 |
| Cyanide, Total Low Level | ug/l | 50[#2] | | <0.1 | - | 0.1 | - | 0.1 | - | 1.9 | <0.1 | 5 | 3 | 1.9 | 0 |
| Fluoride | mg/L | 1.5[#2] | | - | - | - | - | - | 0.4 | - | - | 1 | 1 | 0.4 | 0 |
| Sulphate | mg/L | 250[#2] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Chloride | mg/L | 250[#2] | | - | - | - | 1.5 | - | <1 | - | - | 2 | 1 | 1.5 | 0 |
| Nitrate (as NO3-) | mg/L | 50[#2] | | - | - | - | - | - | 0.71 | - | - | 1 | 1 | 0.71 | 0 |
| Nitrite (as NO2-) | mg/L | 0.5[#2] | | - | - | - | - | - | <0.1 | - | - | 1 | 0 | ND | 0 |
| Ortho Phosphate as PO4 | mg/L | | | - | - | - | <0.01 | - | - | - | - | 1 | 0 | ND | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | - | - | - | 32 | - | - | - | - | 1 | 1 | 32 | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | - | - | - | <10 | - | - | - | - | 1 | 0 | ND | 0 |
| Ammoniacal Nitrogen as N | mg/L | | | 0.057 | <0.2 | 0.039 | - | 0.028 | - | 0.026 | 0.063 | 6 | 5 | 0.063 | 0 |
| Sulphate (soluble) | mg/L | | | - | <2 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Phosphorus (filtered) | mg/L | 0.0004[#3] | | **0.039** | - | **0.043** | <0.018 | <0.018 | - | **0.097** | **0.12** | 6 | 4 | 0.12 | 4 |
| TDS | mg/L | | | - | - | - | - | - | 77 | - | - | 1 | 1 | 77 | 0 |
| Other | | | | | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 2.6 | 3.36 | 75 | - | 10 | 2.1 | 13 | 2.1 | 7 | 7 | 75 | 0 |
| pH (Lab) | pH_Units | | | - | 8.29 | - | - | - | - | - | - | 1 | 1 | 8.29 | 0 |
| Biological | | | | | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | - | - | 0 | - | - | 1 | 1 | ND | 0 |
| Coliform | cfu/100ml | | | - | - | - | - | - | 0 | - | - | 1 | 1 | ND | 0 |
| Dissolved Gases | | | | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | - | - | - | 1.4 | - | - | 1 | 1 | 1.4 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Field | | | | | | | | | | | | | | | |
| pH | pH_Units | | | 8.3 | - | 7 | - | 7.2 | - | 6.9 | 7.1 | 5 | 5 | 8.3 | 0 |
| Temp | oC | | | - | 21.6 | - | - | - | - | - | - | 1 | 1 | 21.6 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:USEPA RSL (tapwater) [May 2020]
#4:AECOM DWG (WHO method)
#5:WHO DWG 2017
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

| | Units | EC Protective of Surface Water | Monitoring Zone | Area_2 | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71202 | R71203 | R71204 | R71301 | R71803 | SA503A | STP71402 | STP71602 | | | | |
| | | | Depth Range (m) | 0.5 | 1-1.1 | 0.2 | 35.5-35.72 | 0.2 | 0.5-0.5 | 0.2 | 0.2 | | | | |
| | | | Date | 11/09/2019 | 18/09/2020 | 11/09/2019 | 01/07/2019 | 11/09/2019 | 14/03/2017 | 16/09/2019 | 13/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-18439 | 576005 | 19-18439 | 19-13973 | 19-18439 | GIR_2017 | 19-18693 | 19-18652 | | | | |
| **TPH** | | | | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | - | <50 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | | | <0.1 | <10 | <0.1 | - | <0.1 | <1 | <0.1 | <0.1 | 7 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | | | <0.1 | <10 | <0.1 | - | <0.1 | <1 | <0.1 | <0.1 | 7 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | | | <0.1 | <10 | <0.1 | - | <0.1 | <1 | <0.1 | <0.1 | 7 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | | | <2 | <20 | <2 | - | <2 | <20 | <2 | <2 | 7 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >C5-C35 Aliphatics | µg/L | | | <10 | - | <10 | - | <10 | - | <10 | <10 | 5 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | | - | <10 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >C6-C7 Aromatics | µg/L | | | <0.1 | - | <0.1 | - | <0.1 | - | <0.1 | <0.1 | 5 | 0 | ND | 0 |
| >C7-C8 Aromatics | µg/L | | | <0.1 | - | <0.1 | - | <0.1 | - | <0.1 | <0.1 | 5 | 0 | ND | 0 |
| >C8 -C10 Aromatics | µg/L | | | <0.1 | - | <0.1 | - | <0.1 | - | <0.1 | <0.1 | 5 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 10[#1] | | - | <10 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 74[#2] | | - | <10 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | | | - | <10 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | | | <1 | <10 | <1 | - | <1 | <10 | <1 | <1 | 7 | 0 | ND | 0 |
| >EC16-EC35 Aromatics | µg/L | | | - | <10 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | | | <1 | <10 | <1 | - | <1 | - | <1 | <1 | 6 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | | | - | <10 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| >C5-C35 Aromatics | µg/L | | | <10 | - | <10 | - | <10 | - | <10 | <10 | 5 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | <10 | - | <10 | - | <10 | <10 | 6 | 0 | ND | 0 |
| Total Aliphatics | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| VOC | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| MTBE | µg/L | 5,100[#3] | | <1 | <3 | <1 | - | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Chloromethane | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 77[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromomethane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Chloroethane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 9[#3] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#1] | | - | - | - | - | - | <5 | - | - | 1 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromochloromethane | µg/L | | | - | - | - | - | - | <5 | - | - | 1 | 0 | ND | 0 |
| Chloroform | µg/L | 2.5[#1] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 100[#4] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 12[#1] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 10[#1] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Benzene | µg/L | 10[#1] | | <1 | <7 | <1 | - | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Trichloroethene | µg/L | 10[#1] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Dibromomethane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Toluene | µg/L | 74[#2] | | <1 | <4 | <1 | - | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 400[#4] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | 10[#1] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Sum of PCE and TCE | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | | | - | - | - | - | - | <3 | - | - | 1 | 0 | ND | 0 |
| Chlorobenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 20[#4] | | <1 | <5 | <1 | - | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | - | <8 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| Xylene Total | µg/L | 30[#4] | | <1 | <11 | <1 | - | <1 | <2 | <1 | <1 | 7 | 0 | ND | 0 |
| Xylene (o) | µg/L | | | - | <3 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| Total BTEX | µg/L | | | - | <28 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Styrene | µg/L | 50[#4] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromoform | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 140[#2] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Bromobenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| n-propylbenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water | Monitoring Zone | Area_2 | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71202 | R71203 | R71204 | R71301 | R71803 | SA503A | STP71402 | STP71602 | | | | |
| | | | Depth Range (m) | 0.5 | 1-1.1 | 0.2 | 35.5-35.72 | 0.2 | 0.5-0.5 | 0.2 | 0.2 | | | | |
| | | | Date | 11/09/2019 | 18/09/2020 | 11/09/2019 | 01/07/2019 | 11/09/2019 | 14/03/2017 | 16/09/2019 | 13/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-18439 | 576005 | 19-18439 | 19-13973 | 19-18439 | GIR_2017 | 19-18693 | 19-18652 | | | | |
| 1,3,5-trimethylbenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| sec-butylbenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| p-isopropyltoluene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| n-butylbenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | - | - | - | - | - | <3 | - | - | 1 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.6[#6] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | - | - | - | - | - | <3 | - | - | 1 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| 1,2-Dibromomethane | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Trihalomethanes | µg/L | | | - | - | - | - | - | <15 | - | - | 1 | 0 | ND | 0 |
| trans-1,2-Dibromoethene | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Carbon disulfide | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.05[#6] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.4[#1] | | - | - | - | - | - | <6 | - | - | 1 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | | <0.05 | <0.01 | <0.05 | - | <0.05 | 0.4 | <0.05 | <0.05 | 7 | 1 | 0.4 | 0 |
| Acenaphthylene | µg/L | | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Acenaphthene | µg/L | | | <0.01 | <0.005 | <0.01 | - | <0.01 | 0.11 | <0.01 | <0.01 | 7 | 1 | 0.11 | 0 |
| Fluorene | µg/L | | | <0.01 | <0.005 | <0.01 | - | <0.01 | 0.04 | <0.01 | <0.01 | 7 | 1 | 0.04 | 0 |
| Phenanthrene | µg/L | | | 0.02 | 0.0156 | 0.01 | - | 0.01 | <0.02 | 0.01 | 0.01 | 7 | 6 | 0.02 | 0 |
| Anthracene | µg/L | 0.1[#1] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | 0.01 | 7 | 1 | 0.01 | 0 |
| Fluoranthene | µg/L | 0.0063[#1] | | **0.03** | **0.0156** | **0.02** | - | **0.01** | <0.02 | **0.01** | **0.02** | 7 | 6 | 0.03 | 6 |
| Pyrene | µg/L | | | 0.03 | 0.00683 | 0.02 | - | 0.02 | <0.02 | 0.01 | 0.02 | 7 | 6 | 0.03 | 0 |
| Benz(a)anthracene | µg/L | | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Chrysene | µg/L | | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | | <0.01 | <0.002 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | | **0.02** | <0.005 | **0.01** | - | **0.01** | <0.02 | <0.01 | **0.01** | 7 | 4 | 0.02 | 4 |
| Benzo(b)fluoranthene | µg/L | 0.017[#6] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | 0.017[#6] | | <0.01 | <0.005 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.02 | <0.01 | <0.02 | - | <0.02 | <0.04 | <0.02 | <0.02 | 7 | 0 | ND | 0 |
| PAHs (sum of 4) | µg/L | | | 0.05 | <0.02 | 0.04 | - | 0.04 | <0.08 | <0.04 | 0.04 | 7 | 4 | 0.05 | 0 |
| PAH 16 Total | µg/L | | | <0.2 | - | <0.2 | - | <0.2 | 0.55 | <0.2 | <0.2 | 6 | 1 | 0.55 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | 0.03 | <0.01 | 0.02 | - | 0.02 | <0.04 | <0.02 | 0.02 | 7 | 4 | 0.03 | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.01 | <0.002 | <0.01 | - | <0.01 | <0.02 | <0.01 | <0.01 | 7 | 0 | ND | 0 |
| SVOC | | | | | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 50[#4] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2-methylphenol | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 4.2[#2] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 40[#4] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 4-methylphenol | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 0.4[#1] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Phenol | µg/L | 7.7[#2] | | <100 | <2 | <100 | - | <100 | <2 | <100 | <100 | 7 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 1.3[#1] | | - | - | - | - | - | <4 | - | - | 1 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 7.5[#2] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 8[#4] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 20[#4] | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 200[#4] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | 800[#4] | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Carbazole | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Dibenzofuran | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Hexachloroethane | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Isophorone | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Phenols | µg/L | | | - | - | - | - | - | <10 | - | - | 1 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | |

| | Units | EC Protective of Surface Water | Monitoring Zone | Area_2 | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71202 | R71203 | R71204 | R71301 | R71803 | SA503A | STP71402 | STP71602 | | | | |
| | | | Depth Range (m) | 0.5 | 1-1.1 | 0.2 | 35.5-35.72 | 0.2 | 0.5-0.5 | 0.2 | 0.2 | | | | |
| | | | Date | 11/09/2019 | 18/09/2020 | 11/09/2019 | 01/07/2019 | 11/09/2019 | 14/03/2017 | 16/09/2019 | 13/09/2019 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 19-18439 | 576005 | 19-18439 | 19-13973 | 19-18439 | GIR_2017 | 19-18693 | 19-18652 | | | | |
| 2,4-Dinitrotoluene | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Nitrobenzene | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | |
| Antimony | µg/L | | | 0.26 | <1 | 0.61 | - | 0.23 | <1 | 0.22 | 0.18 | 7 | 5 | 0.61 | 0 |
| Arsenic | µg/L | 50 [#2] | | 1.1 | <0.5 | 0.86 | - | 0.71 | <1 | 0.84 | 1.2 | 7 | 5 | 1.2 | 0 |
| Barium | µg/L | | | - | - | - | - | - | 6 | - | - | 1 | 1 | 6 | 0 |
| Beryllium | µg/L | | | <0.1 | <0.1 | <0.1 | - | <0.1 | <1 | <0.1 | <0.1 | 7 | 0 | ND | 0 |
| Boron | µg/L | 2,000 [#4] | | 13 | 11.8 | 18 | - | 26 | <10 | 39 | <12 | 7 | 5 | 39 | 0 |
| Cadmium | µg/L | 0.08 [#1] | | <0.03 | <0.08 | <0.03 | - | <0.03 | <1 | <0.03 | <0.03 | 7 | 0 | ND | 0 |
| Calcium | mg/L | | | 7.8 | 17.6 | 5 | 2.2 | 13 | 17 | 8.7 | 1.7 | 8 | 8 | 17.6 | 0 |
| Chromium (III+VI) | µg/L | | | - | <1 | - | - | - | <1 | - | - | 2 | 0 | ND | 0 |
| Copper | µg/L | 1 [#2] | | **1.9** | **2.38** | **1.5** | - | 0.8 | <1 | **2.3** | 0.7 | 7 | 6 | 2.38 | 4 |
| Iron | µg/L | 1.000 [#2] | | 180 | <19 | 120 | - | 20 | - | 400 | 350 | 6 | 5 | 400 | 0 |
| Lead | µg/L | 1.2 [#1] | | 0.45 | <0.2 | 0.46 | - | 0.17 | <1 | **1.3** | 0.86 | 7 | 5 | 1.3 | 1 |
| Magnesium | mg/L | | | - | - | - | 0.39 | - | <1 | - | - | 2 | 1 | 0.39 | 0 |
| Manganese | µg/L | 123 [#2] | | 1.6 | <3 | 0.62 | - | 1.5 | 1 | 120 | 3 | 7 | 6 | 120 | 0 |
| Mercury | µg/L | 0.07 [#6] | | 0.01 | <0.01 | 0.03 | - | <0.01 | <0.1 | <0.01 | 0.01 | 7 | 3 | 0.03 | 0 |
| Molybdenum | µg/L | | | 1.5 | <3 | <1.1 | - | <1.1 | <1 | <1.1 | <1.1 | 7 | 1 | 1.5 | 0 |
| Nickel | µg/L | 4 [#1] | | <0.5 | 0.457 | <0.5 | - | <0.5 | <1 | 0.9 | <0.5 | 7 | 2 | 0.9 | 0 |
| Phosphorus | µg/L | See source document [#1] | | - | 24.2 | - | 110 | - | 177 | - | - | 3 | 3 | 177 | 0 |
| Selenium | µg/L | | | 0.84 | <1 | 0.79 | - | 0.66 | <1 | <0.25 | <0.25 | 7 | 3 | 0.84 | 0 |
| Sodium | mg/L | | | - | - | - | 1.6 | - | <1 | - | - | 2 | 1 | 1.6 | 0 |
| Zinc | µg/L | 10.9 [#2] | | 2.4 | 1.64 | 2.1 | - | 1.8 | 1 | **16** | 3.3 | 7 | 7 | 16 | 1 |
| Potassium | mg/L | | | - | - | - | 0.2 | - | <1 | - | - | 2 | 1 | 0.2 | 0 |
| Chromium (hexavalent) | µg/L | 3.4 [#2] | | <7 | <30 | <7 | - | <7 | <50 | <7 | <7 | 7 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | 4.7 [#2] | | <1 | <30 | <1 | - | <1 | <50 | <1 | <1 | 7 | 0 | ND | 0 |
| Inorganics | | | | | | | | | | | | | | | |
| Sulphate, Total Potential as SO4 | µg/l | | | 1,900 | - | 2,100 | 2,600 | 4,700 | - | 3,000 | 2,100 | 6 | 6 | 4700 | 0 |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | - | - | <0.02 | - | - | 1 | 0 | ND | 0 |
| Cyanide (Free) | mg/L | 0.001 [#4] | | <0.0001 | <0.05 | <0.0001 | - | <0.0001 | <0.005 | <0.0001 | <0.0001 | 7 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.001 [#2] | | - | <0.05 | - | - | - | <0.005 | - | - | 2 | 0 | ND | 0 |
| Cyanide, Total Low Level | ug/l | 1 [#2] | | <0.1 | - | 0.1 | - | 0.1 | - | **1.9** | <0.1 | 5 | 3 | 1.9 | 1 |
| Fluoride | mg/L | 1 [#4] | | - | - | - | - | - | 0.4 | - | - | 1 | 1 | 0.4 | 0 |
| Sulphate | mg/L | 400 [#4] | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Chloride | mg/L | 250 [#4] | | - | - | - | 1.5 | - | <1 | - | - | 2 | 1 | 1.5 | 0 |
| Nitrate (as NO3-) | mg/L | | | - | - | - | - | - | 0.71 | - | - | 1 | 1 | 0.71 | 0 |
| Nitrite (as NO2-) | mg/L | | | - | - | - | - | - | <0.1 | - | - | 1 | 0 | ND | 0 |
| Ortho Phosphate as PO4 | mg/L | | | - | - | - | <0.01 | - | - | - | - | 1 | 0 | ND | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | - | - | - | 32 | - | - | - | - | 1 | 1 | 32 | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | - | - | - | <10 | - | - | - | - | 1 | 0 | ND | 0 |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen) [#2] | | 0.057 | <0.2 | 0.039 | - | 0.028 | - | 0.026 | 0.063 | 6 | 5 | 0.063 | 0 |
| Sulphate (soluble) | mg/L | | | - | <2 | - | - | - | - | - | - | 1 | 0 | ND | 0 |
| Phosphorus (filtered) | mg/L | See source document [#1] | | 0.039 | - | 0.043 | <0.018 | <0.018 | - | 0.097 | 0.12 | 6 | 4 | 0.12 | 0 |
| TDS | mg/L | | | - | - | - | - | - | 77 | - | - | 1 | 1 | 77 | 0 |
| Other | | | | | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 2.6 | 3.36 | 75 | - | 10 | 2.1 | 13 | 2.1 | 7 | 7 | 75 | 0 |
| pH (Lab) | pH_Units | | | - | 8.29 | - | - | - | - | - | - | 1 | 1 | 8.29 | 0 |
| Biological | | | | | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | - | - | 0 | - | - | 1 | 1 | ND | 0 |
| Coliform | cfu/100ml | | | - | - | - | - | - | 0 | - | - | 1 | 1 | ND | 0 |
| Dissolved Gases | | | | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | - | - | - | 1.4 | - | - | 1 | 1 | 1.4 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | - | - | - | <2 | - | - | 1 | 0 | ND | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | - | - | - | <1 | - | - | 1 | 0 | ND | 0 |
| Field | | | | | | | | | | | | | | | |
| pH | pH_Units | | | 8.3 | - | 7 | - | 7.2 | - | 6.9 | 7.1 | 5 | 5 | 8.3 | 0 |
| Temp | oC | | | - | 21.6 | - | - | - | - | - | - | 1 | 1 | 21.6 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limit value not present refer to value with '<' symbol for EQL.
**Key**
**XXX** Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | P505 | R503B | R506A | R602 | | | | R607 | | | R608 | | R614 | | R615 | | R616 | |
| | | | Depth Range (m) | 0-0.1 | 0.15-0.15 | 6.2-6.2 | 0.2-0.5 | 14.9-15.1 | 19.95-20 | 24.35-24.5 | 29.7-29.8 | 13.75 | 16.56 | 18.9 | 10.75-10.85 | 10.6-11.05 | 4.05 | 5.85 | 11.25 | 13.88 | 10.2-10.2 | 12 |
| | | | Date | 14/03/2017 | 05/01/2017 | 17/03/2017 | 13/02/2017 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 30/07/2018 | 30/07/2018 | 30/07/2018 | 03/07/2018 | 03/07/2018 | 24/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 744940-1 | 744940-1 | 744940-1 | 744940-1 | 757612-2 | 757612-2 | 757612-2 | 749318-5 | 749318-5 | 755463-3 | 755463-3 | 757642-2 | 755463-3 | 757633-1 | 755463-3 |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C6 Aliphatics | µg/L | 15,000[#1] | | <1 | <2 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C6-C8 Aliphatics | µg/L | 15,000[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C8-C10 Aliphatics | µg/L | 300[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C10-C12 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C12-C16 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C16-C21 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C16-C35 Aliphatics | µg/L | 300[#1] | | <20 | <20 | <20 | <20 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C21-C35 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C12-C35 Aliphatics | µg/L | 300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC5-EC7 Aromatics | µg/L | 1[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC7-EC8 Aromatics | µg/L | 700[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC8-EC10 Aromatics | µg/L | 300[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC8-EC9 Aromatics | µg/L | 300[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC9-EC10 Aromatics | µg/L | 300[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC10-EC12 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC12-EC16 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC16-EC21 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC16-EC35 Aromatics | µg/L | 90[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC21-EC35 Aromatics | µg/L | 90[#1] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >EC12-EC35 Aromatics | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Aromatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH (Ali & Aro) | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| VOC | | | | | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | 200[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MTBE | µg/L | 1,800[#4] | | <1 | 1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chloromethane | µg/L | 190[#3] | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Vinyl chloride | µg/L | 0.5[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromomethane | µg/L | 7.5[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chloroethane | µg/L | 21,000[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorofluoromethane | µg/L | 5,200[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1-dichloroethene | µg/L | 140[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dichloromethane | µg/L | 20[#5] | | <5 | <5 | <5 | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1-dichloroethane | µg/L | 2.8[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| cis-1,2-dichloroethene | µg/L | Use '1,2 dichloroethene' criteria[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,2-dichloropropane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromochloromethane | µg/L | 83[#3] | | <5 | <5 | <5 | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chloroform | µg/L | Use trihalomethanes[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1,1-trichloroethane | µg/L | 2,000[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbon tetrachloride | µg/L | 3[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dichloroethane | µg/L | 3[#2] | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Benzene | µg/L | 1[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichloroethene | µg/L | Use PCE + TCE[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dichloropropane | µg/L | 40[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dibromomethane | µg/L | 8.3[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromodichloromethane | µg/L | Use trihalomethanes[#2] | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| cis-1,3-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Toluene | µg/L | 700[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| trans-1,3-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1,2-trichloroethane | µg/L | 0.28[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachloroethene | µg/L | Use PCE + TCE[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,3-dichloropropane | µg/L | 370[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sum of PCE and TCE | µg/L | 10[#2] | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorodibromomethane | µg/L | Use trihalomethanes[#2] | | <3 | <3 | <3 | <3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorobenzene | µg/L | 300[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1,1,2-tetrachloroethane | µg/L | 0.57[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ethylbenzene | µg/L | 300[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Xylene (m & p) | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Xylene Total | µg/L | 500[#5] | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Xylene (o) | µg/L | 190[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total BTEX | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Styrene | µg/L | 20[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromoform | µg/L | Use trihalomethanes[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Isopropylbenzene | µg/L | 450[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,1,2,2-tetrachloroethane | µg/L | 0.076[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromobenzene | µg/L | 62[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,3-trichloropropane | µg/L | 0.00075[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| n-propylbenzene | µg/L | 660[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-chlorotoluene | µg/L | 240[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,3,5-trimethylbenzene | µg/L | 60[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chlorotoluene | µg/L | 250[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| tert-butylbenzene | µg/L | 690[#3] | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,4-trimethylbenzene | µg/L | 56[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | P505 | R503B | R506A | R602 | | | | R607 | | | R608 | | R614 | | R615 | | R616 | |
| | | | Depth Range (m) | 0-0.1 | 0.15-0.15 | 6.2-6.2 | 0.2-0.5 | 14.9-15.1 | 19.95-20 | 24.35-24.5 | 29.7-29.8 | 13.75 | 16.56 | 18.9 | 10.75-10.85 | 10.6-11.05 | 4.05 | 5.85 | 11.25 | 13.88 | 10.2-10.2 | 12 |
| | | | Date | 14/03/2017 | 05/01/2017 | 17/03/2017 | 13/02/2017 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 30/07/2018 | 30/07/2018 | 30/07/2018 | 03/07/2018 | 03/07/2018 | 24/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 744940-1 | 744940-1 | 744940-1 | 744940-1 | 757612-2 | 757612-2 | 757612-2 | 749318-5 | 749318-5 | 755463-3 | 755463-3 | 757642-2 | 755463-3 | 757633-1 | 755463-3 |
| sec-butylbenzene | µg/L | 2.000[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| p-isopropyltoluene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,3-dichlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,4-dichlorobenzene | µg/L | 300[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| n-butylbenzene | µg/L | 1,000[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dichlorobenzene | µg/L | 1,000[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dibromo-3-chloropropane | µg/L | 1[#5] | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,4-trichlorobenzene | µg/L | 0.1[#2] | | <3 | <3 | <3 | <3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorobutadiene | µg/L | 0.1[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,3-trichlorobenzene | µg/L | 0.1[#2] | | <3 | <3 | <3 | <3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-Dichloroethene | µg/L | 50[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-Dibromomethane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trihalomethanes | µg/L | 100[#2] | | <15 | <15 | <15 | <15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| trans-1,2-Dibromoethene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbon disulfide | µg/L | 810[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorobenzene | µg/L | 0.1[#2] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorobenzene (total) | µg/L | 0.1[#2] | | <6 | <6 | <6 | <6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PAH | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | µg/L | 6[#4] | | 0.15 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Acenaphthylene | µg/L | 18[#4] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Acenaphthene | µg/L | 18[#4] | | 0.03 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fluorene | µg/L | 12[#4] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phenanthrene | µg/L | 4[#4] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Anthracene | µg/L | 90[#4] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fluoranthene | µg/L | 4[#5] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pyrene | µg/L | 9[#4] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Benz(a)anthracene | µg/L | 3.5[#4] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chrysene | µg/L | 7[#4] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Benzo(a) pyrene | µg/L | 0.01[#2] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dibenz(a,h)anthracene | µg/L | 0.07[#4] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.04 | <0.04 | <0.04 | <0.04 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PAHs (sum of 4) | µg/L | 0.1[#2] | | <0.08 | <0.08 | <0.08 | <0.08 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PAH 16 Total | µg/L | | | 0.18 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.04 | <0.04 | <0.04 | <0.04 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SVOC | | | | | | | | | | | | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 91[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-methylphenol | µg/L | 930[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-nitrophenol | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4-dichlorophenol | µg/L | 46[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4-dimethylphenol | µg/L | 360[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4,5-trichlorophenol | µg/L | 1,200[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4,6-trichlorophenol | µg/L | 200[#5] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chloro-3-methylphenol | µg/L | 1,400[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-methylphenol | µg/L | 1,900[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-nitrophenol | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pentachlorophenol | µg/L | 9[#5] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phenol | µg/L | 5,800[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-chloronaphthalene | µg/L | 750[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-methylnaphthalene | µg/L | 36[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-ethylhexyl) phthalate | µg/L | 8[#5] | | <4 | <20 | <4 | <4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Butyl benzyl phthalate | µg/L | 16[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Di-n-butyl phthalate | µg/L | 900[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Di-n-octyl phthalate | µg/L | 200[#3] | | <10 | <50 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diethylphthalate | µg/L | 15,000[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dimethyl phthalate | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-bromophenyl phenyl ether | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroethoxy) methane | µg/L | 59[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroethyl)ether | µg/L | 0.014[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbazole | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dibenzofuran | µg/L | 7.9[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorocyclopentadiene | µg/L | 0.41[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachloroethane | µg/L | 0.33[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Isophorone | µg/L | 78[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| N-nitrosodi-n-propylamine | µg/L | 0.011[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Perylene | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phenols | µg/L | | | - | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Explosives | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | 0.24[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,6-dinitrotoluene | µg/L | 0.049[#3] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Nitrobenzene | µg/L | 8 to 63[#5] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Metals | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | µg/L | 5[#2] | | - | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | P505 | R503B | R506A | R602 | | | | R607 | | | R608 | | R614 | | R615 | | R616 | |
| | | | Depth Range (m) | 0-0.1 | 0.15-0.15 | 6.2-6.2 | 0.2-0.5 | 14.9-15.1 | 19.95-20 | 24.35-24.5 | 29.7-29.8 | 13.75 | 16.56 | 18.9 | 10.75-10.85 | 10.6-11.05 | 4.05 | 5.85 | 11.25 | 13.88 | 10.2-10.2 | 12 |
| | | | Date | 14/03/2017 | 05/01/2017 | 17/03/2017 | 13/02/2017 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 30/07/2018 | 30/07/2018 | 30/07/2018 | 03/07/2018 | 03/07/2018 | 24/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 744940-1 | 744940-1 | 744940-1 | 744940-1 | 757612-2 | 757612-2 | 757612-2 | 749318-5 | 749318-5 | 755463-3 | 755463-3 | 757642-2 | 755463-3 | 757633-1 | 755463-3 |
| Arsenic | µg/L | 10[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Barium | µg/L | 1,300[#5] | | - | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Beryllium | µg/L | 12[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Boron | µg/L | 1,000[#2] | | 14 | 23 | <10 | 27 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cadmium | µg/L | 5[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Calcium | mg/L | | | 31 | 48 | 10 | 51 | 22 | 13 | 18 | 15 | 24 | 25 | 23 | 26 | 26 | 13 | 15 | 31 | 17 | 17 | 14 |
| Chromium (III+VI) | µg/L | 50[#2] | | <1 | 2 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Copper | µg/L | 2,000[#2] | | 1 | 1 | <1 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Iron | µg/L | 200[#2] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Lead | µg/L | 10[#2] | | <1 | <1 | <1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Magnesium | mg/L | | | <1 | <1 | <1 | 1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.4 | 0.3 |
| Manganese | µg/L | 50[#2] | | 6 | 1 | <1 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mercury | µg/L | 1[#2] | | <0.1 | 0.2 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Molybdenum | µg/L | 70[#5] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Nickel | µg/L | 20[#2] | | <1 | <1 | <1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phosphorus | µg/L | 0.4[#3] | | **73** | **61** | <20 | **141** | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | - | - | <1,000 | - | <1,000 | - |
| Selenium | µg/L | 10[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sodium | mg/L | 200[#2] | | 3 | 3 | 2 | 4 | 1 | 0.9 | 1.2 | 0.9 | 0.4 | 0.3 | 0.5 | 1.1 | 1 | 0.9 | 0.6 | 2 | 3.3 | <0.1 | 0.5 |
| Zinc | µg/L | 6,000[#3] | | 4 | 5 | 3 | 13 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Potassium | mg/L | | | 2 | <1 | 2 | 5 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 |
| Chromium (hexavalent) | µg/L | Use Chromium (total)[#2] | | <50 | <50 | <50 | <50 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chromium (Trivalent) | µg/L | Use Chromium (total)[#2] | | <50 | <50 | <50 | <50 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Inorganics | | | | | | | | | | | | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | <0.02 | <0.02 | <0.02 | 0.15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Alkalinity (Bicarbonate) | mg/L | | | - | - | - | - | 61 | 26,000 | 320 | 37 | 73 | 130 | 110 | 5,100 | 6,200 | 73 | 210 | 37 | 210 | 170 | 220 |
| Cyanide (Free) | mg/L | Use Cyanide Total[#2] | | <0.005 | <0.005 | <0.005 | <0.005 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cyanide Total | mg/L | 0.05[#2] | | <0.005 | <0.005 | <0.005 | <0.005 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fluoride | mg/L | 1.5[#2] | | - | 0.42 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sulphate | mg/L | 250[#2] | | <1 | <1 | 1.29 | 10.03 | 12 | 3.3 | 2.1 | 3.1 | 14 | 11 | 3.8 | 21 | 20 | 3.8 | 5.1 | 19 | 7 | 2.8 | 4.8 |
| Chloride | mg/L | 250[#2] | | 1.39 | 2.06 | 1.59 | 3.56 | 2 | 2 | 3 | 2 | 1 | 2 | 3 | 4 | 3 | 1 | 2 | 6 | 6 | 3 | 3 |
| Nitrate (as NO3-) | mg/L | 50[#2] | | 2.47 | 2.77 | <0.1 | 9.42 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Nitrite (as NO2-) | mg/L | 0.5[#2] | | **0.89** | **0.92** | <0.1 | **0.67** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ortho Phosphate as P | mg/L | | | - | - | - | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.5 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Alkalinity (total) as CaCO3 | mg/L | | | - | - | - | - | 50 | 21,000 | 260 | 50 | 80 | 130 | 110 | 40 | 30 | 80 | 190 | 50 | 190 | 160 | 200 |
| Ammoniacal Nitrogen as N | mg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sulphate (soluble) | mg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phosphorus (filtered) | mg/L | 0.0004[#3] | | - | - | - | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| TDS | mg/L | | | - | 109 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other | | | | | | | | | | | | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 4.9 | 2.3 | 0.7 | 7.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| pH (Lab) | pH_Units | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Biological | | | | | | | | | | | | | | | | | | | | | | |
| E coli | cfu/100ml | | | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Coliform | cfu/100ml | | | 1 | 0 | 0 | 300 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Gases | | | | | | | | | | | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | 2.6 | <1.3 | <1.3 | 5.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Methane (CH4) SUBCON | µg/L | | | 3 | 3 | 8 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Propane (C3H8) | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Field | | | | | | | | | | | | | | | | | | | | | | |
| Temp | oC | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:USEPA RSL (tapwater) [May 2020]
#4:AECOM DWG (WHO method)
#5:WHO DWG 2017
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limits are not present refer to value with this symbol

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71915 | RZ603 | | | SA504 | | | | |
| | | | Depth Range (m) | 0.5 | 16.42 | 21.08 | 31.2 | 0.5-0.5 | | | | |
| | | | Date | 01/09/2020 | 30/05/2018 | 31/05/2018 | 02/07/2018 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 567147 | 749318-5 | 749318-5 | 749318-5 | GIR_2017 | | | | |
| **TPH** | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | <50 | - | - | - | - | 1 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | 15,000[#1] | | <10 | - | - | - | <1 | 6 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | 15,000[#1] | | <10 | - | - | - | <1 | 6 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | 300[#1] | | <10 | - | - | - | <1 | 6 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | 300[#1] | | <10 | - | - | - | <10 | 6 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | 300[#1] | | <10 | - | - | - | <10 | 6 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | 300[#1] | | <10 | - | - | - | <10 | 6 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | 300[#1] | | <20 | - | - | - | <20 | 6 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | 300[#1] | | <10 | - | - | - | <10 | 6 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | 300[#1] | | <10 | - | - | - | - | 1 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 1[#2] | | <10 | - | - | - | <1 | 6 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 700[#1] | | <10 | - | - | - | <1 | 6 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | 300[#1] | | <10 | - | - | - | - | 1 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | 300[#1] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | 300[#1] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | 90[#1] | | <10 | - | - | - | <10 | 6 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | 90[#1] | | <10 | - | - | - | <10 | 6 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | 90[#1] | | <10 | - | - | - | <10 | 6 | 0 | ND | 0 |
| >EC16-EC35 Aromatics | µg/L | 90[#1] | | <10 | - | - | - | - | 1 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | 90[#1] | | <10 | - | - | - | - | 1 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | | | <10 | - | - | - | - | 1 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | - | - | - | - | 1 | 0 | ND | 0 |
| Total Aliphatics | µg/L | | | - | - | - | - | <10 | 5 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | - | - | <10 | 5 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | - | - | <10 | 5 | 0 | ND | 0 |
| VOC | | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | 200[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| MTBE | µg/L | 1,800[#4] | | <3 | - | - | - | <1 | 6 | 1 | 1 | 0 |
| Chloromethane | µg/L | 190[#3] | | - | - | - | - | <10 | 5 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 0.5[#2] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromomethane | µg/L | 7.5[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Chloroethane | µg/L | 21,000[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | 5,200[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 140[#5] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#5] | | - | - | - | - | <10 | 5 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | 2.8[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | Use '1,2 dichloroethene' criteria[#5] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromochloromethane | µg/L | 83[#3] | | - | - | - | - | <5 | 5 | 0 | ND | 0 |
| Chloroform | µg/L | Use trihalomethanes[#2] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 2,000[#5] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 3[#2] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 3[#2] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Benzene | µg/L | 1[#2] | | <7 | - | - | - | <1 | 6 | 0 | ND | 0 |
| Trichloroethene | µg/L | Use PCE + TCE[#2] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | 40[#5] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Dibromomethane | µg/L | 8.3[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | Use trihalomethanes[#2] | | - | - | - | - | <10 | 5 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Toluene | µg/L | 700[#5] | | <4 | - | - | - | <1 | 6 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 0.28[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | Use PCE + TCE[#2] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | 370[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Sum of PCE and TCE | µg/L | 10[#2] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | Use trihalomethanes[#2] | | - | - | - | - | <3 | 5 | 0 | ND | 0 |
| Chlorobenzene | µg/L | 300[#5] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | 0.57[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 300[#5] | | <5 | - | - | - | <1 | 6 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | <8 | - | - | - | <1 | 6 | 0 | ND | 0 |
| Xylene Total | µg/L | 500[#5] | | <11 | - | - | - | <2 | 6 | 0 | ND | 0 |
| Xylene (o) | µg/L | 190[#3] | | <3 | - | - | - | <1 | 6 | 0 | ND | 0 |
| Total BTEX | µg/L | | | <28 | - | - | - | - | 1 | 0 | ND | 0 |
| Styrene | µg/L | 20[#5] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromoform | µg/L | Use trihalomethanes[#2] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | 450[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 0.076[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromobenzene | µg/L | 62[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | 0.00075[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| n-propylbenzene | µg/L | 660[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | 240[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | 60[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | 250[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | 690[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | 56[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71915 | RZ603 | | | SA504 | | | | |
| | | | Depth Range (m) | 0.5 | 16.42 | 21.08 | 31.2 | 0.5-0.5 | | | | |
| | | | Date | 01/09/2020 | 30/05/2018 | 31/05/2018 | 02/07/2018 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 567147 | 749318-5 | 749318-5 | 749318-5 | GIR_2017 | | | | |
| sec-butylbenzene | µg/L | 2.000[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| p-isopropyltoluene | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | 300[#5] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| n-butylbenzene | µg/L | 1,000[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | 1,000[#5] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | 1[#5] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | <3 | 5 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.1[#2] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | <3 | 5 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | 50[#5] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-Dibromomethane | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Trihalomethanes | µg/L | 100[#2] | | - | - | - | - | <15 | 5 | 0 | ND | 0 |
| trans-1,2-Dibromoethene | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Carbon disulfide | µg/L | 810[#3] | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.1[#2] | | - | - | - | - | <6 | 5 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | |
| Naphthalene | µg/L | 6[#4] | | 0.0165 | - | - | - | <0.02 | 6 | 2 | 0.15 | 0 |
| Acenaphthylene | µg/L | 18[#4] | | <0.005 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Acenaphthene | µg/L | 18[#4] | | <0.005 | - | - | - | 0.06 | 6 | 2 | 0.06 | 0 |
| Fluorene | µg/L | 12[#4] | | <0.005 | - | - | - | 0.05 | 6 | 1 | 0.05 | 0 |
| Phenanthrene | µg/L | 4[#4] | | 0.0205 | - | - | - | <0.02 | 6 | 1 | 0.0205 | 0 |
| Anthracene | µg/L | 90[#4] | | <0.005 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Fluoranthene | µg/L | 4[#5] | | 0.00937 | - | - | - | 0.02 | 6 | 2 | 0.02 | 0 |
| Pyrene | µg/L | 9[#4] | | 0.00703 | - | - | - | 0.03 | 6 | 2 | 0.03 | 0 |
| Benz(a)anthracene | µg/L | 3.5[#4] | | <0.005 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Chrysene | µg/L | 7[#4] | | <0.005 | - | - | - | 0.02 | 6 | 1 | 0.02 | 0 |
| Benzo(a) pyrene | µg/L | 0.01[#2] | | <0.002 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | 0.07[#4] | | <0.005 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.01 | - | - | - | <0.04 | 6 | 0 | ND | 0 |
| PAHs (sum of 4) | µg/L | 0.1[#2] | | <0.02 | - | - | - | <0.08 | 6 | 0 | ND | 0 |
| PAH 16 Total | µg/L | | | - | - | - | - | 0.18 | 5 | 2 | 0.18 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.01 | - | - | - | <0.04 | 6 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.002 | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| SVOC | | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 91[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2-methylphenol | µg/L | 930[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 46[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | 360[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | 1,200[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | 200[#5] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 1,400[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 4-methylphenol | µg/L | 1,900[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 9[#5] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Phenol | µg/L | 5,800[#3] | | <2 | - | - | - | <2 | 6 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | 750[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | 36[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 8[#5] | | - | - | - | - | <4 | 5 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 16[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 900[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 200[#3] | | - | - | - | - | <10 | 5 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 15,000[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | 59[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | 0.014[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Carbazole | µg/L | | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Dibenzofuran | µg/L | 7.9[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | 0.41[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Hexachloroethane | µg/L | 0.33[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Isophorone | µg/L | 78[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | 0.011[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Phenols | µg/L | | | - | - | - | - | <10 | 2 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | 0.24[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | 0.049[#3] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Nitrobenzene | µg/L | 8 to 63[#5] | | - | - | - | - | <2 | 5 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | |
| Antimony | µg/L | 5[#2] | | <1 | - | - | - | <1 | 3 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71915 | RZ603 | | | SA504 | | | | |
| | | | Depth Range (m) | 0.5 | 16.42 | 21.08 | 31.2 | 0.5-0.5 | | | | |
| | | | Date | 01/09/2020 | 30/05/2018 | 31/05/2018 | 02/07/2018 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 567147 | 749318-5 | 749318-5 | 749318-5 | GIR_2017 | | | | |
| Arsenic | µg/L | 10[#2] | | 0.518 | - | - | - | <1 | 6 | 1 | 0.518 | 0 |
| Barium | µg/L | 1,300[#5] | | - | - | - | - | 3 | 2 | 2 | 5 | 0 |
| Beryllium | µg/L | 12[#5] | | <0.1 | - | - | - | <1 | 6 | 0 | ND | 0 |
| Boron | µg/L | 1,000[#2] | | 16.9 | - | - | - | <10 | 6 | 4 | 27 | 0 |
| Cadmium | µg/L | 5[#2] | | <0.08 | - | - | - | <1 | 6 | 0 | ND | 0 |
| Calcium | mg/L | | | 29.6 | 32 | 27 | 21 | 6 | 24 | 24 | 51 | 0 |
| Chromium (III+VI) | µg/L | 50[#2] | | <1 | - | - | - | <1 | 6 | 1 | 2 | 0 |
| Copper | µg/L | 2,000[#2] | | 3.17 | - | - | - | <1 | 6 | 4 | 3.17 | 0 |
| Iron | µg/L | 200[#2] | | <19 | - | - | - | - | 1 | 0 | ND | 0 |
| Lead | µg/L | 10[#2] | | <0.2 | - | - | - | <1 | 6 | 1 | 1 | 0 |
| Magnesium | mg/L | | | - | 0.2 | 0.3 | 0.2 | <1 | 23 | 19 | 1 | 0 |
| Manganese | µg/L | 50[#2] | | <3 | - | - | - | <1 | 6 | 3 | 6 | 0 |
| Mercury | µg/L | 1[#2] | | <0.01 | - | - | - | <0.1 | 6 | 1 | 0.2 | 0 |
| Molybdenum | µg/L | 70[#5] | | <3 | - | - | - | <1 | 6 | 0 | ND | 0 |
| Nickel | µg/L | 20[#2] | | 0.761 | - | - | - | <1 | 6 | 2 | 2 | 0 |
| Phosphorus | µg/L | 0.4[#3] | | **41.2** | <1,000 | <1,000 | <1,000 | <20 | 20 | 4 | 141 | 4 |
| Selenium | µg/L | 10[#2] | | <1 | - | - | - | <1 | 6 | 0 | ND | 0 |
| Sodium | mg/L | 200[#2] | | - | 0.7 | 1.7 | 1.1 | <1 | 23 | 21 | 4 | 0 |
| Zinc | µg/L | 6,000[#3] | | 2.11 | - | - | - | 2 | 6 | 6 | 13 | 0 |
| Potassium | mg/L | | | - | <0.1 | <0.1 | <0.1 | <1 | 23 | 6 | 5 | 0 |
| Chromium (hexavalent) | µg/L | Use Chromium (total)[#2] | | <30 | - | - | - | <50 | 6 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | Use Chromium (total)[#2] | | <30 | - | - | - | <50 | 6 | 0 | ND | 0 |
| Inorganics | | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | - | <0.02 | 5 | 1 | 0.15 | 0 |
| Alkalinity (Bicarbonate) | mg/L | | | - | 12,000 | 2,000 | 3,800 | - | 18 | 18 | 26000 | 0 |
| Cyanide (Free) | mg/L | Use Cyanide Total[#2] | | <0.05 | - | - | - | <0.005 | 6 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.05[#2] | | <0.05 | - | - | - | <0.005 | 6 | 0 | ND | 0 |
| Fluoride | mg/L | 1.5[#2] | | - | - | - | - | 0.2 | 2 | 2 | 0.42 | 0 |
| Sulphate | mg/L | 250[#2] | | - | 7.6 | 3 | 4.2 | <1 | 23 | 20 | 21 | 0 |
| Chloride | mg/L | 250[#2] | | - | 2 | 4 | 2 | 1.02 | 23 | 23 | 6 | 0 |
| Nitrate (as NO3-) | mg/L | 50[#2] | | - | - | - | - | 7.71 | 5 | 4 | 9.42 | 0 |
| Nitrite (as NO2-) | mg/L | 0.5[#2] | | - | - | - | - | <0.1 | 5 | 3 | 0.92 | 3 |
| Ortho Phosphate as P | mg/L | | | - | <0.5 | <0.5 | <0.5 | - | 18 | 2 | 0.5 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | - | 9,800 | 1,700 | 3,200 | - | 18 | 18 | 21000 | 0 |
| Ammoniacal Nitrogen as N | mg/L | | | <0.2 | - | - | - | - | 1 | 0 | ND | 0 |
| Sulphate (soluble) | mg/L | | | 4.6 | - | - | - | - | 1 | 1 | 4.6 | 0 |
| Phosphorus (filtered) | mg/L | 0.0004[#3] | | - | <1 | <1 | <1 | - | 18 | 0 | ND | 0 |
| TDS | mg/L | | | - | - | - | - | 59 | 2 | 2 | 109 | 0 |
| Other | | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 5.16 | - | - | - | 0.7 | 6 | 6 | 7.9 | 0 |
| pH (Lab) | pH_Units | | | 8.36 | - | - | - | - | 1 | 1 | 8.36 | 0 |
| Biological | | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | - | 0 | 5 | 5 | ND | 0 |
| Coliform | cfu/100ml | | | - | - | - | - | 4 | 5 | 5 | 300 | 0 |
| Dissolved Gases | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | - | - | <1.3 | 5 | 2 | 5.5 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | - | - | 1 | 5 | 4 | 8 | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | - | - | <1 | 5 | 0 | ND | 0 |
| Field | | | | | | | | | | | | |
| Temp | oC | | | 22.2 | - | - | - | - | 1 | 1 | 22.2 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:USEPA RSL (tapwater) [May 2020]
#4:AECOM DWG (WHO method)
#5:WHO DWG 2017
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limits are not present refer to values with bold symbol

**Key**
XXX Exceedance of EC Protective of Groundwater

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | P505 | R503B | R506A | R602 | | | | R607 | | | R608 | | R614 | | R615 | | R616 | | R71915 | |
| | | | Depth Range (m) | 0-0.1 | 0.15-0.15 | 6.2-6.2 | 0.2-0.5 | 14.9-15.1 | 19.95-20 | 24.35-24.5 | 29.7-29.8 | 13.75 | 16.56 | 18.9 | 10.75-10.85 | 10.6-11.05 | 4.05 | 5.85 | 11.25 | 13.88 | 10.2-10.2 | 12 | 0.5 | |
| | | | Date | 14/03/2017 | 05/01/2017 | 17/03/2017 | 13/02/2017 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 30/07/2018 | 30/07/2018 | 30/07/2018 | 03/07/2018 | 03/07/2018 | 24/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 | 01/09/2020 | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 744940-1 | 744940-1 | 744940-1 | 744940-1 | 757612-2 | 757612-2 | 757612-2 | 749318-5 | 749318-5 | 755463-3 | 755463-3 | 757642-2 | 755463-3 | 757633-1 | 755463-3 | 567147 | |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <50 | |
| >C5-C6 Aliphatics | µg/L | | | <1 | <2 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >C6-C8 Aliphatics | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >C8-C10 Aliphatics | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >C10-C12 Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >C12-C16 Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >C16-C21 Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >C16-C35 Aliphatics | µg/L | | | <20 | <20 | <20 | <20 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <20 | |
| >C21-C35 Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >C12-C35 Aliphatics | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >EC5-EC7 Aromatics | µg/L | 10[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >EC7-EC8 Aromatics | µg/L | 74[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >EC8-EC10 Aromatics | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >EC8-EC9 Aromatics | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| >EC9-EC10 Aromatics | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| >EC10-EC12 Aromatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >EC12-EC16 Aromatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >EC16-EC21 Aromatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >EC16-EC35 Aromatics | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >EC21-EC35 Aromatics | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >EC12-EC35 Aromatics | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <10 | |
| Total Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Total Aromatics | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| TPH (Ali & Aro) | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| VOC | | | | | | | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| MTBE | µg/L | 5.100[#3] | | <1 | 1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <3 | |
| Chloromethane | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Vinyl chloride | µg/L | 77[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Bromomethane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Chloroethane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Trichlorofluoromethane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,1-dichloroethene | µg/L | 9[#3] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Dichloromethane | µg/L | 20[#1] | | <5 | <5 | <5 | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,1-dichloroethane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| cis-1,2-dichloroethene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 2,2-dichloropropane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Bromochloromethane | µg/L | | | <5 | <5 | <5 | <5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Chloroform | µg/L | 2.5[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,1,1-trichloroethane | µg/L | 100[#4] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,1-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Carbon tetrachloride | µg/L | 12[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,2-dichloroethane | µg/L | 10[#1] | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Benzene | µg/L | 10[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <7 | |
| Trichloroethene | µg/L | 10[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,2-dichloropropane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Dibromomethane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Bromodichloromethane | µg/L | | | <10 | <10 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| cis-1,3-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Toluene | µg/L | 74[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <4 | |
| trans-1,3-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,1,2-trichloroethane | µg/L | 400[#4] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Tetrachloroethene | µg/L | 10[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,3-dichloropropane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Sum of PCE and TCE | µg/L | | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Chlorodibromomethane | µg/L | | | <3 | <3 | <3 | <3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Chlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,1,1,2-tetrachloroethane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Ethylbenzene | µg/L | 20[#4] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <5 | |
| Xylene (m & p) | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <8 | |
| Xylene Total | µg/L | 30[#4] | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <11 | |
| Xylene (o) | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <3 | |
| Total BTEX | µg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <28 | |
| Styrene | µg/L | 50[#4] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Bromoform | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Isopropylbenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,1,2,2-tetrachloroethane | µg/L | 140[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Bromobenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,2,3-trichloropropane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| n-propylbenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 2-chlorotoluene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,3,5-trimethylbenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 4-chlorotoluene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| tert-butylbenzene | µg/L | | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 1,2,4-trimethylbenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | P505 | R503B | R506A | R602 | | | | R607 | | | R608 | | R614 | | R615 | | R616 | | R71915 |
| | | | Depth Range (m) | 0-0.1 | 0.15-0.15 | 6.2-6.2 | 0.2-0.5 | 14.9-15.1 | 19.95-20 | 24.35-24.5 | 29.7-29.8 | 13.75 | 16.56 | 18.9 | 10.75-10.85 | 10.6-11.05 | 4.05 | 5.85 | 11.25 | 13.88 | 10.2-10.2 | 12 | 0.5 |
| | | | Date | 14/03/2017 | 05/01/2017 | 17/03/2017 | 13/02/2017 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 30/07/2018 | 30/07/2018 | 30/07/2018 | 03/07/2018 | 03/07/2018 | 24/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 | 01/09/2020 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 744940-1 | 744940-1 | 744940-1 | 744940-1 | 757612-2 | 757612-2 | 757612-2 | 749318-5 | 749318-5 | 755463-3 | 755463-3 | 757642-2 | 755463-3 | 757633-1 | 755463-3 | 567147 |
| sec-butylbenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| p-isopropyltoluene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,3-dichlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,4-dichlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| n-butylbenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dichlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-dibromo-3-chloropropane | µg/L | | | <2 | <2 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,4-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | <3 | <3 | <3 | <3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorobutadiene | µg/L | 0.6[#6] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2,3-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | <3 | <3 | <3 | <3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-Dichloroethene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1,2-Dibromomethane | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trihalomethanes | µg/L | | | <15 | <15 | <15 | <15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| trans-1,2-Dibromoethene | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbon disulfide | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorobenzene | µg/L | 0.05[#6] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorobenzene (total) | µg/L | 0.4[#1] | | <6 | <6 | <6 | <6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PAH | | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | | 0.15 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.0165 |
| Acenaphthylene | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Acenaphthene | µg/L | | | 0.03 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Fluorene | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Phenanthrene | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.0205 |
| Anthracene | µg/L | 0.1[#1] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Fluoranthene | µg/L | 0.0063[#1] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.00937 |
| Pyrene | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.00703 |
| Benz(a)anthracene | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Chrysene | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.002 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Dibenz(a,h)anthracene | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Benzo(b)fluoranthene | µg/L | 0.017[#6] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Benzo(k)fluoranthene | µg/L | 0.017[#6] | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.005 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.04 | <0.04 | <0.04 | <0.04 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 |
| PAHs (sum of 4) | µg/L | | | <0.08 | <0.08 | <0.08 | <0.08 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.02 |
| PAH 16 Total | µg/L | | | 0.18 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.04 | <0.04 | <0.04 | <0.04 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.02 | <0.02 | <0.02 | <0.02 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.002 |
| SVOC | | | | | | | | | | | | | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 50[#4] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-methylphenol | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-nitrophenol | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4-dichlorophenol | µg/L | 4.2[#2] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4-dimethylphenol | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4,5-trichlorophenol | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,4,6-trichlorophenol | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-chloro-3-methylphenol | µg/L | 40[#4] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-methylphenol | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-nitrophenol | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Pentachlorophenol | µg/L | 0.4[#1] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phenol | µg/L | 7.7[#2] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <2 |
| 2-chloronaphthalene | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2-methylnaphthalene | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-ethylhexyl) phthalate | µg/L | 1.3[#1] | | <4 | <20 | <4 | <4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Butyl benzyl phthalate | µg/L | 7.5[#2] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Di-n-butyl phthalate | µg/L | 8[#4] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Di-n-octyl phthalate | µg/L | 20[#4] | | <10 | <50 | <10 | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diethylphthalate | µg/L | 200[#4] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dimethyl phthalate | µg/L | 800[#4] | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4-bromophenyl phenyl ether | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroethoxy) methane | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis(2-chloroethyl)ether | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Carbazole | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dibenzofuran | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorocyclopentadiene | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachloroethane | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Isophorone | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| N-nitrosodi-n-propylamine | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Perylene | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Phenols | µg/L | | | - | <10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Explosives | | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2,6-dinitrotoluene | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Nitrobenzene | µg/L | | | <2 | <10 | <2 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Metals | | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | µg/L | | | - | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <1 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area_3 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P502B | P505 | R503B | R506A | R602 | | | | R607 | | | R608 | | R614 | | R615 | | R616 | | R71915 |
| | | | Depth Range (m) | 0-0.1 | 0.15-0.15 | 6.2-6.2 | 0.2-0.5 | 14.9-15.1 | 19.95-20 | 24.35-24.5 | 29.7-29.8 | 13.75 | 16.56 | 18.9 | 10.75-10.85 | 10.6-11.05 | 4.05 | 5.85 | 11.25 | 13.88 | 10.2-10.2 | 12 | 0.5 |
| | | | Date | 14/03/2017 | 05/01/2017 | 17/03/2017 | 13/02/2017 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 14/06/2018 | 30/07/2018 | 30/07/2018 | 30/07/2018 | 03/07/2018 | 03/07/2018 | 24/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 | 30/07/2018 | 24/07/2018 | 01/09/2020 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | GIR_2017 | GIR_2017 | GIR_2017 | GIR_2017 | 744940-1 | 744940-1 | 744940-1 | 744940-1 | 757612-2 | 757612-2 | 757612-2 | 749318-5 | 749318-5 | 755463-3 | 755463-3 | 757642-2 | 755463-3 | 757633-1 | 755463-3 | 567147 |
| Arsenic | µg/L | 50[#2] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.518 |
| Barium | µg/L | | | - | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Beryllium | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 |
| Boron | µg/L | 2.000[#4] | | 14 | 23 | <10 | 27 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 16.9 |
| Cadmium | µg/L | 0.08[#1] | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.08 |
| Calcium | mg/L | | | 31 | 48 | 10 | 51 | 22 | 13 | 18 | 15 | 24 | 25 | 23 | 26 | 26 | 13 | 15 | 31 | 17 | 17 | 14 | 29.6 |
| Chromium (III+VI) | µg/L | | | <1 | 2 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <1 |
| Copper | µg/L | 1[#2] | | **1** | **1** | <1 | **3** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | **3.17** |
| Iron | µg/L | 1.000[#2] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <19 |
| Lead | µg/L | 1.2[#1] | | <1 | <1 | <1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 |
| Magnesium | mg/L | | | <1 | <1 | <1 | 1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.4 | 0.3 | - |
| Manganese | µg/L | 123[#2] | | 6 | 1 | <1 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <3 |
| Mercury | µg/L | 0.07[#6] | | <0.1 | 0.2 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.01 |
| Molybdenum | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <3 |
| Nickel | µg/L | 4[#1] | | <1 | <1 | <1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.761 |
| Phosphorus | µg/L | See source document[#1] | | 73 | 61 | <20 | 141 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | <1,000 | - | - | <1,000 | - | <1,000 | - | 41.2 |
| Selenium | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <1 |
| Sodium | mg/L | | | 3 | 3 | 2 | 4 | 1 | 0.9 | 1.2 | 0.9 | 0.4 | 0.3 | 0.5 | 1.1 | 1 | 0.9 | 0.6 | 2 | 3.3 | <0.1 | 0.5 | - |
| Zinc | µg/L | 10.9[#2] | | 4 | 5 | 3 | **13** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2.11 |
| Potassium | mg/L | | | 2 | <1 | 2 | 5 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | - |
| Chromium (hexavalent) | µg/L | 3.4[#2] | | <50 | <50 | <50 | <50 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <30 |
| Chromium (Trivalent) | µg/L | 4.7[#2] | | <50 | <50 | <50 | <50 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <30 |
| Inorganics | | | | | | | | | | | | | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | <0.02 | <0.02 | <0.02 | 0.15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Alkalinity (Bicarbonate) | mg/L | | | - | - | - | - | 61 | 26,000 | 320 | 37 | 73 | 130 | 110 | 5,100 | 6,200 | 73 | 210 | 37 | 210 | 170 | 220 | - |
| Cyanide (Free) | mg/L | 0.001[#4] | | <0.005 | <0.005 | <0.005 | <0.005 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 |
| Cyanide Total | mg/L | 0.001[#2] | | <0.005 | <0.005 | <0.005 | <0.005 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.05 |
| Fluoride | mg/L | 1[#4] | | - | 0.42 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sulphate | mg/L | 400[#4] | | <1 | <1 | 1.29 | 10.03 | 12 | 3.3 | 2.1 | 3.1 | 14 | 11 | 3.8 | 21 | 20 | 3.8 | 5.1 | 19 | 7 | 2.8 | 4.8 | - |
| Chloride | mg/L | 250[#4] | | 1.39 | 2.06 | 1.59 | 3.56 | 2 | 2 | 3 | 2 | 1 | 2 | 3 | 4 | 3 | 1 | 2 | 6 | 6 | 3 | 3 | - |
| Nitrate (as NO3-) | mg/L | | | 2.47 | 2.77 | <0.1 | 9.42 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Nitrite (as NO2-) | mg/L | | | 0.89 | 0.92 | <0.1 | 0.67 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ortho Phosphate as P | mg/L | | | - | - | - | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.5 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - |
| Alkalinity (total) as CaCO3 | mg/L | | | - | - | - | - | 50 | 21,000 | 260 | 50 | 80 | 130 | 110 | 40 | 30 | 80 | 190 | 50 | 190 | 160 | 200 | - |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.2 |
| Sulphate (soluble) | mg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.6 |
| Phosphorus (filtered) | mg/L | See source document[#1] | | - | - | - | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - |
| TDS | mg/L | | | - | 109 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other | | | | | | | | | | | | | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 4.9 | 2.3 | 0.7 | 7.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.16 |
| pH (Lab) | pH_Units | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.36 |
| Biological | | | | | | | | | | | | | | | | | | | | | | | |
| E coli | cfu/100ml | | | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Coliform | cfu/100ml | | | 1 | 0 | 0 | 300 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Gases | | | | | | | | | | | | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | 2.6 | <1.3 | <1.3 | 5.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Methane (CH4) SUBCON | µg/L | | | 3 | 3 | 8 | <2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dissolved Propane (C3H8) | µg/L | | | <1 | <1 | <1 | <1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Field | | | | | | | | | | | | | | | | | | | | | | | |
| Temp | oC | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 22.2 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limit value not present refer to value with '<' symbol

**Key**
**XXX** Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RZ603 | | SA504 | | | | |
| | | | Depth Range (m) | 16.42 | 21.08 | 31.2 | 0.5-0.5 | | | | |
| | | | Date | 30/05/2018 | 31/05/2018 | 02/07/2018 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 749318-5 | 749318-5 | 749318-5 | GIR_2017 | | | | |
| **TPH** | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | - | - | - | - | 1 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | | - | - | - | <1 | 6 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | | - | - | - | <1 | 6 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | | - | - | - | <1 | 6 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | | - | - | - | <10 | 6 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | | - | - | - | <10 | 6 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | | - | - | - | <10 | 6 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | | - | - | - | <20 | 6 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | | - | - | - | <10 | 6 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | - | - | - | - | 1 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 10[#1] | - | - | - | <1 | 6 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 74[#2] | - | - | - | <1 | 6 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | | - | - | - | - | 1 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | | - | - | - | <10 | 6 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | | - | - | - | <10 | 6 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | | - | - | - | <10 | 6 | 0 | ND | 0 |
| >EC16-EC35 Aromatics | µg/L | | - | - | - | - | 1 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | | - | - | - | - | 1 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | | - | - | - | - | 1 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | - | - | - | - | 1 | 0 | ND | 0 |
| Total Aliphatics | µg/L | | - | - | - | <10 | 5 | 0 | ND | 0 |
| Total Aromatics | µg/L | | - | - | - | <10 | 5 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | - | - | - | <10 | 5 | 0 | ND | 0 |
| VOC | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| MTBE | µg/L | 5,100[#3] | - | - | - | <1 | 6 | 1 | 1 | 0 |
| Chloromethane | µg/L | | - | - | - | <10 | 5 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 77[#3] | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromomethane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Chloroethane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 9[#3] | - | - | - | <1 | 5 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#1] | - | - | - | <10 | 5 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromochloromethane | µg/L | | - | - | - | <5 | 5 | 0 | ND | 0 |
| Chloroform | µg/L | 2.5[#1] | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 100[#4] | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 12[#1] | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 10[#1] | - | - | - | <2 | 5 | 0 | ND | 0 |
| Benzene | µg/L | 10[#1] | - | - | - | <1 | 6 | 0 | ND | 0 |
| Trichloroethene | µg/L | 10[#1] | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Dibromomethane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | | - | - | - | <10 | 5 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Toluene | µg/L | 74[#2] | - | - | - | <1 | 6 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 400[#4] | - | - | - | <1 | 5 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | 10[#1] | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Sum of PCE and TCE | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | | - | - | - | <3 | 5 | 0 | ND | 0 |
| Chlorobenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 20[#4] | - | - | - | <1 | 6 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | - | - | - | <1 | 6 | 0 | ND | 0 |
| Xylene Total | µg/L | 30[#4] | - | - | - | <2 | 6 | 0 | ND | 0 |
| Xylene (o) | µg/L | | - | - | - | <1 | 6 | 0 | ND | 0 |
| Total BTEX | µg/L | | - | - | - | - | 1 | 0 | ND | 0 |
| Styrene | µg/L | 50[#4] | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromoform | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 140[#2] | - | - | - | <1 | 5 | 0 | ND | 0 |
| Bromobenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| n-propylbenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RZ603 | | SA504 | | | | |
| | | | Depth Range (m) | 16.42 | 21.08 | 31.2 | 0.5-0.5 | | | | |
| | | | Date | 30/05/2018 | 31/05/2018 | 02/07/2018 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 749318-5 | 749318-5 | 749318-5 | GIR_2017 | | | | |
| sec-butylbenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| p-isopropyltoluene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| n-butylbenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | - | - | - | <3 | 5 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.6[#6] | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | - | - | - | <3 | 5 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| 1,2-Dibromomethane | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Trihalomethanes | µg/L | | - | - | - | <15 | 5 | 0 | ND | 0 |
| trans-1,2-Dibromoethene | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Carbon disulfide | µg/L | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.05[#6] | - | - | - | <2 | 5 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.4[#1] | - | - | - | <6 | 5 | 0 | ND | 0 |
| PAH | | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | - | - | - | <0.02 | 6 | 2 | 0.15 | 0 |
| Acenaphthylene | µg/L | | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Acenaphthene | µg/L | | - | - | - | 0.06 | 6 | 2 | 0.06 | 0 |
| Fluorene | µg/L | | - | - | - | 0.05 | 6 | 1 | 0.05 | 0 |
| Phenanthrene | µg/L | | - | - | - | <0.02 | 6 | 1 | 0.0205 | 0 |
| Anthracene | µg/L | 0.1[#1] | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Fluoranthene | µg/L | 0.0063[#1] | - | - | - | **0.02** | 6 | 2 | 0.02 | 2 |
| Pyrene | µg/L | | - | - | - | 0.03 | 6 | 2 | 0.03 | 0 |
| Benz(a)anthracene | µg/L | | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Chrysene | µg/L | | - | - | - | 0.02 | 6 | 1 | 0.02 | 0 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | 0.017[#6] | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | 0.017[#6] | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | - | - | - | <0.04 | 6 | 0 | ND | 0 |
| PAHs (sum of 4) | µg/L | | - | - | - | <0.08 | 6 | 0 | ND | 0 |
| PAH 16 Total | µg/L | | - | - | - | 0.18 | 5 | 2 | 0.18 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | - | - | - | <0.04 | 6 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | - | - | - | <0.02 | 6 | 0 | ND | 0 |
| SVOC | | | | | | | | | | |
| 2-chlorophenol | µg/L | 50[#4] | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2-methylphenol | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 4.2[#2] | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 40[#4] | - | - | - | <2 | 5 | 0 | ND | 0 |
| 4-methylphenol | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 0.4[#1] | - | - | - | <2 | 5 | 0 | ND | 0 |
| Phenol | µg/L | 7.7[#2] | - | - | - | <2 | 6 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 1.3[#1] | - | - | - | <4 | 5 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 7.5[#2] | - | - | - | <2 | 5 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 8[#4] | - | - | - | <2 | 5 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 20[#4] | - | - | - | <10 | 5 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 200[#4] | - | - | - | <2 | 5 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | 800[#4] | - | - | - | <2 | 5 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Carbazole | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Dibenzofuran | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Hexachloroethane | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Isophorone | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Perylene | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Phenols | µg/L | | - | - | - | <10 | 2 | 0 | ND | 0 |
| Explosives | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Nitrobenzene | µg/L | | - | - | - | <2 | 5 | 0 | ND | 0 |
| Metals | | | | | | | | | | |
| Antimony | µg/L | | - | - | - | <1 | 3 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RZ603 | | SA504 | | | | |
| | | | Depth Range (m) | 16.42 | 21.08 | 31.2 | 0.5-0.5 | | | | |
| | | | Date | 30/05/2018 | 31/05/2018 | 02/07/2018 | 08/03/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 749318-5 | 749318-5 | 749318-5 | GIR_2017 | | | | |
| Arsenic | µg/L | 50[#2] | | - | - | - | <1 | 6 | 1 | 0.518 | 0 |
| Barium | µg/L | | | - | - | - | 3 | 2 | 2 | 5 | 0 |
| Beryllium | µg/L | | | - | - | - | <1 | 6 | 0 | ND | 0 |
| Boron | µg/L | 2.000[#4] | | - | - | - | <10 | 6 | 4 | 27 | 0 |
| Cadmium | µg/L | 0.08[#1] | | - | - | - | <1 | 6 | 0 | ND | 0 |
| Calcium | mg/L | | | 32 | 27 | 21 | 6 | 24 | 24 | 51 | 0 |
| Chromium (III+VI) | µg/L | | | - | - | - | <1 | 6 | 1 | 2 | 0 |
| Copper | µg/L | 1[#2] | | - | - | - | <1 | 6 | 4 | 3.17 | 4 |
| Iron | µg/L | 1.000[#2] | | - | - | - | - | 1 | 0 | ND | 0 |
| Lead | µg/L | 1.2[#1] | | - | - | - | <1 | 6 | 1 | 1 | 0 |
| Magnesium | mg/L | | | 0.2 | 0.3 | 0.2 | <1 | 23 | 19 | 1 | 0 |
| Manganese | µg/L | 123[#2] | | - | - | - | <1 | 6 | 3 | 6 | 0 |
| Mercury | µg/L | 0.07[#6] | | - | - | - | <0.1 | 6 | 1 | 0.2 | 0 |
| Molybdenum | µg/L | | | - | - | - | <1 | 6 | 0 | ND | 0 |
| Nickel | µg/L | 4[#1] | | - | - | - | <1 | 6 | 2 | 2 | 0 |
| Phosphorus | µg/L | See source document[#1] | | <1,000 | <1,000 | <1,000 | <20 | 20 | 4 | 141 | 0 |
| Selenium | µg/L | | | - | - | - | <1 | 6 | 0 | ND | 0 |
| Sodium | mg/L | | | 0.7 | 1.7 | 1.1 | <1 | 23 | 21 | 4 | 0 |
| Zinc | µg/L | 10.9[#2] | | - | - | - | 2 | 6 | 6 | 13 | 1 |
| Potassium | mg/L | | | <0.1 | <0.1 | <0.1 | <1 | 23 | 6 | 5 | 0 |
| Chromium (hexavalent) | µg/L | 3.4[#2] | | - | - | - | <50 | 6 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | 4.7[#2] | | - | - | - | <50 | 6 | 0 | ND | 0 |
| Inorganics | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | <0.02 | 5 | 1 | 0.15 | 0 |
| Alkalinity (Bicarbonate) | mg/L | | | 12,000 | 2,000 | 3,800 | - | 18 | 18 | 26000 | 0 |
| Cyanide (Free) | mg/L | 0.001[#4] | | - | - | - | <0.005 | 6 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.001[#2] | | - | - | - | <0.005 | 6 | 0 | ND | 0 |
| Fluoride | mg/L | 1[#4] | | - | - | - | 0.2 | 2 | 2 | 0.42 | 0 |
| Sulphate | mg/L | 400[#4] | | 7.6 | 3 | 4.2 | <1 | 23 | 20 | 21 | 0 |
| Chloride | mg/L | 250[#4] | | 2 | 4 | 2 | 1.02 | 23 | 23 | 6 | 0 |
| Nitrate (as NO3-) | mg/L | | | - | - | - | 7.71 | 5 | 4 | 9.42 | 0 |
| Nitrite (as NO2-) | mg/L | | | - | - | - | <0.1 | 5 | 3 | 0.92 | 0 |
| Ortho Phosphate as P | mg/L | | | <0.5 | <0.5 | <0.5 | - | 18 | 2 | 0.5 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | 9,800 | 1,700 | 3,200 | - | 18 | 18 | 21000 | 0 |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | | - | - | - | - | 1 | 0 | ND | 0 |
| Sulphate (soluble) | mg/L | | | - | - | - | - | 1 | 1 | 4.6 | 0 |
| Phosphorus (filtered) | mg/L | See source document[#1] | | <1 | <1 | <1 | - | 18 | 0 | ND | 0 |
| TDS | mg/L | | | - | - | - | 59 | 2 | 2 | 109 | 0 |
| Other | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | - | - | - | 0.7 | 6 | 6 | 7.9 | 0 |
| pH (Lab) | pH_Units | | | - | - | - | - | 1 | 1 | 8.36 | 0 |
| Biological | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | 0 | 5 | 5 | ND | 0 |
| Coliform | cfu/100ml | | | - | - | - | 4 | 5 | 5 | 300 | 0 |
| Dissolved Gases | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | - | <1.3 | 5 | 2 | 5.5 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | - | 1 | 5 | 4 | 8 | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | - | <1 | 5 | 0 | ND | 0 |
| Field | | | | | | | | | | | |
| Temp | oC | | | - | - | - | - | 1 | 1 | 22.2 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limit value not present refer to value with '<' symbol

**Key**
XXX Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | BH72401 | BH72503 | CP72308 | R507A | R72006 | | R72101 | SA505 | SA506 | STP72202A | STP72601 | STPES1 | STPES2 | STPES5 | WS72401 | | | | |
| | | | Depth Range (m) | 0.5 | 0.4-0.5 | 0.2-0.2 | 0.5-1 | 0.3 | 1 | 0.25 | 0.8-0.8 | 0-0.25 | 0.3 | 0.5 | 0.5 | 1 | 1 | 0.3 | | | | |
| | | | Date | 16/09/2020 | 17/09/2020 | 13/10/2020 | 13/02/2017 | 08/10/2020 | 08/10/2020 | 03/09/2020 | 28/02/2017 | 01/03/2017 | 02/10/2020 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 08/10/2020 | 24/09/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 580777 | 569585 | 574317 | GIR_2017 | 580779 | 580779 | 568519 | GIR_2017 | GIR_2017 | 573946 | 575579 | 575579 | 575579 | 578687 | 571020 | | | | |
| **TPH** | | | | | | | | | | | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | <50 | <50 | 440 | - | <50 | <50 | - | - | - | <50 | <50 | <50 | <50 | <50 | <50 | 11 | 1 | 440 | 0 |
| >C5-C6 Aliphatics | µg/L | 15,000[#1] | | <10 | <10 | <10 | <1 | <10 | <10 | - | <1 | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | 15,000[#1] | | <10 | <10 | <10 | <1 | <10 | <10 | - | <1 | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | 300[#1] | | <10 | <10 | 50 | <1 | <10 | <10 | - | <1 | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 1 | 50 | 0 |
| >C10-C12 Aliphatics | µg/L | 300[#1] | | <10 | <10 | 189 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 1 | 189 | 0 |
| >C12-C16 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | 300[#1] | | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <40 | <20 | <20 | <20 | 15 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | | <10 | <10 | <10 | - | <10 | <10 | <10 | - | - | <10 | <10 | <20 | <10 | <10 | <10 | 12 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 1[#2] | | <10 | <10 | <10 | <1 | <10 | <10 | - | <1 | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 700[#1] | | <10 | <10 | <10 | <1 | <10 | <10 | - | <1 | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | 300[#1] | | <10 | <10 | 55 | - | <10 | <10 | - | - | - | <10 | <10 | <10 | <10 | <10 | <10 | 11 | 1 | 55 | 0 |
| >EC8-EC9 Aromatics | µg/L | 90[#1] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | 90[#1] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | 90[#1] | | <10 | <10 | **126** | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 1 | 126 | 1 |
| >EC12-EC16 Aromatics | µg/L | 90[#1] | | <10 | <10 | **759** | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 1 | 759 | 1 |
| >EC16-EC21 Aromatics | µg/L | 90[#1] | | <10 | <10 | **595** | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 1 | 595 | 1 |
| >EC16-EC35 Aromatics | µg/L | 90[#1] | | <10 | <10 | 634 | - | <10 | <10 | <10 | - | - | <10 | <10 | <20 | <10 | <10 | <10 | 12 | 1 | 634 | 1 |
| >EC21-EC35 Aromatics | µg/L | 90[#1] | | <10 | <10 | 39 | - | <10 | <10 | <10 | - | - | <10 | <10 | <20 | <10 | <10 | <10 | 12 | 1 | 39 | 0 |
| >EC12-EC35 Aromatics | µg/L | | | <10 | <10 | 1,390 | - | <10 | <10 | <10 | - | - | <10 | <10 | <20 | <10 | <10 | <10 | 12 | 1 | 1390 | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | 1,830 | - | <10 | <10 | - | - | - | <10 | <10 | <10 | <10 | <10 | <10 | 11 | 1 | 1830 | 0 |
| Total Aliphatics | µg/L | | | - | - | - | <10 | - | - | - | <10 | <10 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | - | <10 | - | - | - | <10 | <10 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | - | <10 | - | - | - | <10 | <10 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| VOC | | | | | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | 200[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| MTBE | µg/L | 1,800[#4] | | <3 | <3 | <3 | <1 | <3 | <3 | - | <1 | <1 | <3 | <3 | <3 | <3 | <3 | <3 | 14 | 0 | ND | 0 |
| Chloromethane | µg/L | 190[#3] | | - | - | - | <10 | - | - | - | <10 | <10 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 0.5[#2] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Bromomethane | µg/L | 7.5[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Chloroethane | µg/L | 21,000[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | 5,200[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 140[#5] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#5] | | - | - | - | <5 | - | - | - | <20 | <15 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | 2.8[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | Use '1,2 dichloroethene' criteria[#5] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Bromochloromethane | µg/L | 83[#3] | | - | - | - | <5 | - | - | - | <5 | <5 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Chloroform | µg/L | Use trihalomethanes[#2] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 2,000[#5] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 3[#2] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 3[#2] | | - | - | - | <2 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Benzene | µg/L | 1[#2] | | <7 | <7 | <7 | <1 | <7 | <7 | - | <1 | <1 | <7 | <7 | <7 | <7 | <7 | <7 | 14 | 0 | ND | 0 |
| Trichloroethene | µg/L | Use PCE + TCE[#2] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | 40[#5] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Dibromomethane | µg/L | 8.3[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | Use trihalomethanes[#2] | | - | - | - | <10 | - | - | - | <10 | <10 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Toluene | µg/L | 700[#5] | | <4 | <4 | 6 | <1 | <4 | <4 | - | <1 | <1 | <4 | <4 | <4 | <4 | <4 | <4 | 14 | 1 | 6 | 0 |
| trans-1,3-dichloropropene | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 0.28[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | Use PCE + TCE[#2] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | 370[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Sum of PCE and TCE | µg/L | 10[#2] | | - | - | - | <2 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | Use trihalomethanes[#2] | | - | - | - | <3 | - | - | - | <3 | <3 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Chlorobenzene | µg/L | 300[#5] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | 0.57[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 300[#5] | | <5 | <5 | <5 | <1 | <5 | <5 | - | <1 | <1 | <5 | <5 | <5 | <5 | <5 | <5 | 14 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | <8 | <8 | 10 | <1 | <8 | <8 | - | <1 | <1 | <8 | <8 | <8 | <8 | <8 | <8 | 14 | 1 | 10 | 0 |
| Xylene Total | µg/L | 500[#5] | | <11 | <11 | 19 | <2 | <11 | <11 | - | <2 | <2 | <11 | <11 | <11 | <11 | <11 | <11 | 14 | 1 | 19 | 0 |
| Xylene (o) | µg/L | 190[#3] | | <3 | <3 | 9 | <1 | <3 | <3 | - | <1 | <1 | <3 | <3 | <3 | <3 | <3 | <3 | 14 | 1 | 9 | 0 |
| Total BTEX | µg/L | | | <28 | <28 | <28 | - | <28 | <28 | - | - | - | <28 | <28 | <28 | <28 | <28 | <28 | 11 | 0 | ND | 0 |
| Styrene | µg/L | 20[#5] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Bromoform | µg/L | Use trihalomethanes[#2] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | 450[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 0.076[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Bromobenzene | µg/L | 62[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | 0.00075[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| n-propylbenzene | µg/L | 660[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | 240[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | 60[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | 250[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | 690[#3] | | - | - | - | <2 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | 56[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| sec-butylbenzene | µg/L | 2,000[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | BH72401 | BH72503 | CP72308 | R507A | R72006 | | R72101 | SA505 | SA506 | STP72202A | STP72601 | STPES1 | STPES2 | STPES5 | WS72401 | | | | |
| | | | Depth Range (m) | 0.5 | 0.4-0.5 | 0.2-0.2 | 0.5-1 | 0.3 | 1 | 0.25 | 0.8-0.8 | 0-0.25 | 0.3 | 0.5 | 0.5 | 1 | 1 | 0.3 | | | | |
| | | | Date | 16/09/2020 | 17/09/2020 | 13/10/2020 | 13/02/2017 | 08/10/2020 | 08/10/2020 | 03/09/2020 | 28/02/2017 | 01/03/2017 | 02/10/2020 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 08/10/2020 | 24/09/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 580777 | 569585 | 574317 | GIR_2017 | 580779 | 580779 | 568519 | GIR_2017 | GIR_2017 | 573946 | 575579 | 575579 | 575579 | 578687 | 571020 | | | | |
| p-isopropyltoluene | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | 300[#5] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| n-butylbenzene | µg/L | 1.000[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | 1.000[#5] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | 1[#5] | | - | - | - | <2 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | 0.1[#2] | | - | - | - | <3 | - | - | - | <3 | <3 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.1[#2] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | 0.1[#2] | | - | - | - | <3 | - | - | - | <3 | <3 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | 50[#5] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 1,2-Dibromomethane | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Trihalomethanes | µg/L | 100[#2] | | - | - | - | <15 | - | - | - | <15 | <15 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| trans-1,2-Dibromoethene | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Carbon disulfide | µg/L | 810[#3] | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.1[#2] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.1[#2] | | - | - | - | <6 | - | - | - | <6 | <6 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | µg/L | 6[#4] | | <0.01 | <0.01 | 1.6 | <0.02 | <0.01 | <0.01 | <0.01 | <0.02 | <0.02 | <0.01 | <0.01 | 0.0267 | 0.0168 | 0.0104 | <0.01 | 15 | 4 | 1.6 | 0 |
| Acenaphthylene | µg/L | 18[#4] | | <0.005 | <0.005 | **46.2** | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.01 | 0.0484 | 0.026 | <0.005 | 15 | 3 | 46.2 | 1 |
| Acenaphthene | µg/L | 18[#4] | | 0.0369 | 0.0237 | **51** | <0.02 | <0.005 | <0.005 | <0.005 | 0.06 | <0.02 | <0.005 | 0.0205 | <0.01 | 0.0825 | 0.0417 | 0.0201 | 15 | 8 | 51 | 1 |
| Fluorene | µg/L | 12[#4] | | 0.0271 | 0.00958 | **48.1** | 0.02 | <0.005 | <0.005 | <0.005 | 0.04 | <0.02 | <0.005 | 0.0123 | 0.0149 | 0.0427 | 0.0229 | 0.0125 | 15 | 10 | 48.1 | 1 |
| Phenanthrene | µg/L | 4[#4] | | 0.308 | 0.0715 | **86.3** | 0.05 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | 0.0716 | 0.0783 | 0.294 | 0.0942 | 0.0946 | 15 | 9 | 86.3 | 1 |
| Anthracene | µg/L | 90[#4] | | 0.0765 | 0.0262 | 16.4 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | 0.015 | 0.0199 | 0.0747 | 0.0868 | 0.016 | 15 | 8 | 16.4 | 0 |
| Fluoranthene | µg/L | 4[#5] | | 0.37 | 0.166 | **14** | <0.02 | <0.005 | <0.005 | <0.005 | 0.08 | <0.02 | <0.005 | 0.0263 | 0.166 | 0.251 | 0.0825 | 0.0956 | 15 | 9 | 14 | 1 |
| Pyrene | µg/L | 9[#4] | | 0.248 | 0.148 | **9** | <0.02 | <0.005 | <0.005 | <0.005 | 0.07 | <0.02 | <0.005 | 0.017 | 0.121 | 0.194 | 0.0678 | 0.0431 | 15 | 9 | 9 | 1 |
| Benz(a)anthracene | µg/L | 3.5[#4] | | 0.022 | <0.005 | 0.666 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | 0.0432 | 0.0528 | 0.0412 | <0.005 | 15 | 5 | 0.666 | 0 |
| Chrysene | µg/L | 7[#4] | | 0.0225 | 0.0153 | 0.487 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | 0.069 | 0.0588 | 0.0444 | 0.0135 | 15 | 7 | 0.487 | 0 |
| Benzo(a) pyrene | µg/L | 0.01[#2] | | <0.002 | <0.002 | **0.163** | <0.02 | <0.002 | <0.002 | <0.002 | <0.02 | <0.02 | <0.002 | <0.002 | **0.0732** | **0.0525** | **0.0504** | 0.00888 | 15 | 5 | 0.163 | 4 |
| Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | <0.005 | 0.0662 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | 0.0636 | 0.0785 | 0.0516 | <0.005 | 15 | 4 | 0.0785 | 0 |
| Dibenz(a,h)anthracene | µg/L | 0.07[#4] | | <0.005 | <0.005 | <0.005 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | <0.01 | 0.0146 | 0.0113 | <0.005 | 15 | 2 | 0.0146 | 0 |
| Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | <0.005 | 0.0723 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | 0.145 | 0.199 | 0.134 | <0.005 | 15 | 4 | 0.199 | 0 |
| Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | 0.00785 | 0.0133 | 0.211 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | 0.143 | 0.0937 | 0.068 | 0.0165 | 15 | 7 | 0.211 | 0 |
| Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.005 | <0.005 | 0.107 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 | <0.02 | <0.005 | <0.005 | 0.06 | 0.0304 | 0.0316 | 0.00503 | 15 | 5 | 0.107 | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | 0.01285 | 0.0183 | 0.318 | <0.04 | <0.01 | <0.01 | <0.01 | <0.04 | <0.04 | <0.01 | <0.01 | 0.203 | 0.1241 | 0.0996 | 0.02153 | 15 | 7 | 0.318 | 0 |
| PAHs (sum of 4) | µg/L | 0.1[#2] | | 0.02285 | 0.0283 | **0.4565** | <0.08 | <0.02 | <0.02 | <0.02 | <0.08 | <0.08 | <0.02 | <0.02 | **0.4116** | **0.4016** | **0.2852** | 0.03153 | 15 | 7 | 0.4565 | 4 |
| PAH 16 Total | µg/L | | | - | - | - | 0.07 | - | - | - | 0.25 | <0.02 | - | - | - | - | - | - | 3 | 2 | 0.25 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.01 | <0.01 | 0.1385 | <0.04 | <0.01 | <0.01 | <0.01 | <0.04 | <0.04 | <0.01 | <0.01 | 0.2086 | 0.2775 | 0.1856 | <0.01 | 15 | 4 | 0.2775 | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.002 | <0.002 | 0.163 | <0.02 | <0.002 | <0.002 | <0.002 | <0.02 | <0.02 | <0.002 | <0.002 | 0.0732 | 0.0525 | 0.0504 | 0.00888 | 15 | 5 | 0.163 | 0 |
| SVOC | | | | | | | | | | | | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 91[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2-methylphenol | µg/L | 930[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 46[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | 360[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | 1.200[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | 200[#5] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 1.400[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 4-methylphenol | µg/L | 1.900[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 9[#5] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Phenol | µg/L | 5.800[#3] | | <2 | <2 | <2 | <10 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 14 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | 750[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | 36[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 8[#5] | | - | - | - | <20 | - | - | - | <4 | <4 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 16[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 900[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 200[#3] | | - | - | - | <50 | - | - | - | <10 | <10 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 15.000[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | 59[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | 0.014[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Carbazole | µg/L | | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Dibenzofuran | µg/L | 7.9[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | 0.41[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Hexachloroethane | µg/L | 0.33[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | BH72401 | BH72503 | CP72308 | R507A | R72006 | | R72101 | SA505 | SA506 | STP72202A | STP72601 | STPES1 | STPES2 | STPES5 | WS72401 | | | | |
| | | | Depth Range (m) | 0.5 | 0.4-0.5 | 0.2-0.2 | 0.5-1 | 0.3 | 1 | 0.25 | 0.8-0.8 | 0-0.25 | 0.3 | 0.5 | 0.5 | 1 | 1 | 0.3 | | | | |
| | | | Date | 16/09/2020 | 17/09/2020 | 13/10/2020 | 13/02/2017 | 08/10/2020 | 08/10/2020 | 03/09/2020 | 28/02/2017 | 01/03/2017 | 02/10/2020 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 08/10/2020 | 24/09/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 580777 | 569585 | 574317 | GIR_2017 | 580779 | 580779 | 568519 | GIR_2017 | GIR_2017 | 573946 | 575579 | 575579 | 575579 | 578687 | 571020 | | | | |
| Isophorone | µg/L | 78[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | 0.011[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Phenols | µg/L | | | - | - | - | <10 | - | - | - | - | <10 | - | - | - | - | - | - | 2 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | 0.24[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | 0.049[#3] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Nitrobenzene | µg/L | 8 to 63[#5] | | - | - | - | <10 | - | - | - | <2 | <2 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | | | | | | | | |
| Antimony | µg/L | 5[#2] | | <1 | <1 | 1.83 | <1 | <1 | <1 | <1 | - | <1 | <1 | <1 | **8.97** | 2.37 | 2.69 | <1 | 14 | 4 | 8.97 | 1 |
| Arsenic | µg/L | 10[#2] | | <0.5 | <0.5 | 3.12 | <1 | <0.5 | <0.5 | 1.24 | 1 | <1 | 0.63 | <0.5 | 3.4 | 2.72 | 4.27 | 0.758 | 15 | 8 | 4.27 | 0 |
| Barium | µg/L | 1.300[#5] | | - | - | - | 9 | - | - | - | - | 10 | - | - | - | - | - | - | 2 | 2 | 10 | 0 |
| Beryllium | µg/L | 12[#5] | | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <1 | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 15 | 0 | ND | 0 |
| Boron | µg/L | 1.000[#2] | | <10 | <10 | 55 | <10 | 12 | <10 | 25.9 | <10 | 16 | 13 | <10 | 91.3 | 26 | 37.2 | 16.4 | 15 | 9 | 91.3 | 0 |
| Cadmium | µg/L | 5[#2] | | <0.08 | <0.08 | <0.08 | <1 | <0.08 | <0.08 | <0.08 | <1 | <1 | <0.08 | <0.08 | 0.146 | <0.08 | <0.08 | <0.08 | 15 | 1 | 0.146 | 0 |
| Calcium | mg/L | | | 12.5 | 19.2 | 86.3 | 24 | 29.7 | 15.2 | 60 | 24 | 48 | 57 | 22.1 | 35.3 | 15.7 | 24.1 | 61.7 | 15 | 15 | 86.3 | 0 |
| Chromium (III+VI) | µg/L | 50[#2] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 4.65 | <1 | <1 | <1 | 15 | 1 | 4.65 | 0 |
| Copper | µg/L | 2.000[#2] | | 1.52 | 2.78 | 4.93 | <1 | 2.21 | 0.896 | 5.44 | <1 | 2 | 4.52 | 3.63 | 29.4 | 7.11 | 13.7 | 2.64 | 15 | 13 | 29.4 | 0 |
| Iron | µg/L | 200[#2] | | <19 | <19 | **323** | - | <19 | <19 | <19 | - | - | <19 | <19 | **344** | 49.8 | <19 | <19 | 12 | 3 | 344 | 2 |
| Lead | µg/L | 10[#2] | | <0.2 | <0.2 | **10.7** | <1 | <0.2 | <0.2 | <0.2 | <1 | <1 | <0.2 | <0.2 | 3.98 | 0.488 | <0.2 | <0.2 | 15 | 3 | 10.7 | 1 |
| Magnesium | mg/L | | | - | - | - | <1 | - | - | - | <1 | 1 | - | - | - | - | - | - | 3 | 1 | 1 | 0 |
| Manganese | µg/L | 50[#2] | | <3 | <3 | **75.8** | <1 | <3 | <3 | <3 | <1 | <1 | <3 | 15.1 | 12.6 | <3 | <3 | <3 | 15 | 3 | 75.8 | 1 |
| Mercury | µg/L | 1[#2] | | <0.01 | <0.01 | <0.01 | <0.1 | <0.01 | <0.01 | <0.01 | 0.1 | <0.1 | <0.01 | <0.01 | 0.014 | <0.01 | 0.0164 | <0.01 | 15 | 3 | 0.1 | 0 |
| Molybdenum | µg/L | 70[#5] | | <3 | <3 | 4.67 | <1 | <3 | <3 | 3.66 | <1 | 1 | <3 | <3 | 25.7 | 6.24 | 22.8 | <3 | 15 | 6 | 25.7 | 0 |
| Nickel | µg/L | 20[#2] | | 0.441 | 0.583 | 1.96 | 1 | 0.68 | 0.42 | 2.06 | <1 | 2 | 1.2 | 0.661 | 3.8 | 1.29 | 1.68 | 1.09 | 15 | 14 | 3.8 | 0 |
| Phosphorus | µg/L | 0.4[#3] | | **46.6** | **15** | **41.3** | <20 | **41.2** | **22** | **189** | **68** | **133** | **60.5** | **20.9** | **193** | **47.2** | **622** | **80.3** | 15 | 14 | 622 | 14 |
| Selenium | µg/L | 10[#2] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 1.03 | <1 | <1 | <1 | 15 | 1 | 1.03 | 0 |
| Sodium | mg/L | 200[#2] | | - | - | - | 2 | - | - | - | 1 | 2 | - | - | - | - | - | - | 3 | 3 | 2 | 0 |
| Zinc | µg/L | 6.000[#3] | | 2.24 | <1 | 7.2 | 10 | 1.92 | 2.43 | 5.13 | 2 | 6 | <1 | 1.41 | 52.1 | 2.23 | 2.56 | 3 | 15 | 13 | 52.1 | 0 |
| Potassium | mg/L | | | - | - | - | <1 | - | - | - | 1 | <1 | - | - | - | - | - | - | 3 | 1 | 1 | 0 |
| Chromium (hexavalent) | µg/L | Use Chromium (total)[#2] | | <30 | <30 | <30 | <50 | <30 | <30 | <30 | <50 | <50 | <30 | <30 | <30 | <30 | <30 | <30 | 15 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | Use Chromium (total)[#2] | | <30 | <30 | <30 | <50 | <30 | <30 | <30 | <50 | <50 | <30 | <30 | <30 | - | <30 | <30 | 14 | 0 | ND | 0 |
| Inorganics | | | | | | | | | | | | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | <0.02 | - | - | - | 0.1 | 0.76 | - | - | - | - | - | - | 3 | 2 | 0.76 | 0 |
| Cyanide (Free) | mg/L | Use Cyanide Total[#2] | | <0.05 | <0.05 | <0.05 | <0.005 | <0.05 | <0.05 | <0.05 | <0.005 | <0.005 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 15 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.05[#2] | | <0.05 | <0.05 | <0.05 | <0.005 | <0.05 | <0.05 | <0.05 | <0.005 | <0.005 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 15 | 0 | ND | 0 |
| Fluoride | mg/L | 1.5[#2] | | - | - | - | 0.24 | - | - | - | - | 0.25 | - | - | - | - | - | - | 2 | 2 | 0.25 | 0 |
| Sulphate | mg/L | 250[#2] | | - | - | - | 3.8 | - | - | - | 1.28 | <1 | - | - | - | - | - | - | 3 | 2 | 3.8 | 0 |
| Chloride | mg/L | 250[#2] | | - | - | - | 1.31 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 1 | 1.31 | 0 |
| Nitrate (as NO3-) | mg/L | 50[#2] | | - | - | - | 7.65 | - | - | - | <0.1 | 38.61 | - | - | - | - | - | - | 3 | 2 | 38.61 | 0 |
| Nitrite (as NO2-) | mg/L | 0.5[#2] | | - | - | - | <0.1 | - | - | - | <0.1 | <0.1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Ammoniacal Nitrogen as N | mg/L | | | <0.2 | <0.2 | <0.2 | - | <0.2 | <0.2 | 0.236 | - | - | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 12 | 1 | 0.236 | 0 |
| Sulphate (soluble) | mg/L | | | <2 | 8.2 | 3.4 | - | 9.2 | <2 | 15.5 | - | - | 11.6 | <2 | 42 | 10 | <2 | 2.8 | 12 | 8 | 42 | 0 |
| TDS | mg/L | | | - | - | - | 107 | - | - | - | - | 91 | - | - | - | 61.5 | - | - | 3 | 3 | 107 | 0 |
| Other | | | | | | | | | | | | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 3.98 | 3.74 | 31.4 | 1.8 | 5.4 | 4.16 | 10.1 | 1.1 | 5.1 | 7.5 | 5.32 | 21 | 3.71 - 6.71 | 11.4 | 10.5 | 15 | 15 | 31.4 | 0 |
| pH (Lab) | pH_Units | | | 8.43 | 8.54 | 7.89 | - | 8.37 | 8.57 | 8.23 | - | - | 8.41 | 8.13 | 8.4 | 8.5 | 8.83 | 8.35 | 12 | 12 | 8.83 | 0 |
| Biological | | | | | | | | | | | | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | 0 | - | - | - | 0 | 0 | - | - | - | - | - | - | 3 | 3 | ND | 0 |
| Coliform | cfu/100ml | | | - | - | - | 0 | - | - | - | 0 | 14 | - | - | - | - | - | - | 3 | 3 | 14 | 0 |
| Dissolved Gases | | | | | | | | | | | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | - | <1.3 | - | - | - | 1.4 | 4.3 | - | - | - | - | - | - | 3 | 2 | 4.3 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | - | <2 | - | - | - | <2.22 | 1 | - | - | - | - | - | - | 3 | 1 | 1 | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | - | <1 | - | - | - | <1 | <1 | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Field | | | | | | | | | | | | | | | | | | | | | | |
| Temp | oC | | | 21.6 | 20.4 | 20.1 | - | 21.5 | 21.7 | 17.6 | - | - | 19.6 | 20 | 20 | 15.6 | 18.9 | 20 | 12 | 12 | 21.7 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:USEPA RSL (tapwater) [May 2020]
#4:AECOM DWG (WHO method)
#5:WHO DWG 2017
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limit value not present refer to value with '<' symbol.

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | | | | | Area_4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | BH72401 | BH72503 | CP72308 | R507A | R72006 | | R72101 | SA505 |
| | | | Depth Range (m) | 0.5 | 0.4-0.5 | 0.2-0.2 | 0.5-1 | 0.3 | 1 | 0.25 | 0.8-0.8 |
| | | | Date | 16/09/2020 | 17/09/2020 | 13/10/2020 | 13/02/2017 | 08/10/2020 | 08/10/2020 | 03/09/2020 | 28/02/2017 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | 580777 | 569585 | 574317 | GIR_2017 | 580779 | 580779 | 568519 | GIR_2017 |
| **TPH** | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | <50 | <50 | 440 | - | <50 | <50 | - | - |
| >C5-C6 Aliphatics | µg/L | | | <10 | <10 | <10 | <1 | <10 | <10 | - | <1 |
| >C6-C8 Aliphatics | µg/L | | | <10 | <10 | <10 | <1 | <10 | <10 | - | <1 |
| >C8-C10 Aliphatics | µg/L | | | <10 | <10 | 50 | <1 | <10 | <10 | - | <1 |
| >C10-C12 Aliphatics | µg/L | | | <10 | <10 | 189 | <10 | <10 | <10 | - | <10 |
| >C12-C16 Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| >C16-C21 Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| >C16-C35 Aliphatics | µg/L | | | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| >C21-C35 Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| >C12-C35 Aliphatics | µg/L | | | <10 | <10 | <10 | - | <10 | <10 | <10 | - |
| >EC5-EC7 Aromatics | µg/L | 10[#1] | | <10 | <10 | <10 | <1 | <10 | <10 | - | <1 |
| >EC7-EC8 Aromatics | µg/L | 74[#2] | | <10 | <10 | <10 | <1 | <10 | <10 | - | <1 |
| >EC8-EC10 Aromatics | µg/L | | | <10 | <10 | 55 | - | <10 | <10 | - | - |
| >EC8-EC9 Aromatics | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| >EC9-EC10 Aromatics | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| >EC10-EC12 Aromatics | µg/L | | | <10 | <10 | 126 | <10 | <10 | <10 | - | <10 |
| >EC12-EC16 Aromatics | µg/L | | | <10 | <10 | 759 | <10 | <10 | <10 | <10 | <10 |
| >EC16-EC21 Aromatics | µg/L | | | <10 | <10 | 595 | <10 | <10 | <10 | <10 | <10 |
| >EC16-EC35 Aromatics | µg/L | | | <10 | <10 | 634 | - | <10 | <10 | <10 | - |
| >EC21-EC35 Aromatics | µg/L | | | <10 | <10 | 39 | - | <10 | <10 | <10 | - |
| >EC12-EC35 Aromatics | µg/L | | | <10 | <10 | 1,390 | - | <10 | <10 | <10 | - |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | 1,830 | - | <10 | <10 | - | - |
| Total Aliphatics | µg/L | | | - | - | - | <10 | - | - | - | <10 |
| Total Aromatics | µg/L | | | - | - | - | <10 | - | - | - | <10 |
| TPH (Ali & Aro) | µg/L | | | - | - | - | <10 | - | - | - | <10 |
| VOC | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| MTBE | µg/L | 5,100[#3] | | <3 | <3 | <3 | <1 | <3 | <3 | - | <1 |
| Chloromethane | µg/L | | | - | - | - | <10 | - | - | - | <10 |
| Vinyl chloride | µg/L | 77[#3] | | - | - | - | <1 | - | - | - | <1 |
| Bromomethane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Chloroethane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Trichlorofluoromethane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,1-dichloroethene | µg/L | 9[#3] | | - | - | - | <1 | - | - | - | <1 |
| Dichloromethane | µg/L | 20[#1] | | - | - | - | <5 | - | - | - | <20 |
| 1,1-dichloroethane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| cis-1,2-dichloroethene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 2,2-dichloropropane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Bromochloromethane | µg/L | | | - | - | - | <5 | - | - | - | <5 |
| Chloroform | µg/L | 2.5[#1] | | - | - | - | <1 | - | - | - | <1 |
| 1,1,1-trichloroethane | µg/L | 100[#4] | | - | - | - | <1 | - | - | - | <1 |
| 1,1-dichloropropene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Carbon tetrachloride | µg/L | 12[#1] | | - | - | - | <1 | - | - | - | <1 |
| 1,2-dichloroethane | µg/L | 10[#1] | | - | - | - | <2 | - | - | - | <2 |
| Benzene | µg/L | 10[#1] | | <7 | <7 | <7 | <1 | <7 | <7 | - | <1 |
| Trichloroethene | µg/L | 10[#1] | | - | - | - | <1 | - | - | - | <1 |
| 1,2-dichloropropane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Dibromomethane | µg/L | | | - | - | - | <1 | - | - | - | <1 |

| | | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | | | | | Area_4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | BH72401 | BH72503 | CP72308 | R507A | R72006 | | R72101 | SA505 |
| | | | Depth Range (m) | 0.5 | 0.4-0.5 | 0.2-0.2 | 0.5-1 | 0.3 | 1 | 0.25 | 0.8-0.8 |
| | | | Date | 16/09/2020 | 17/09/2020 | 13/10/2020 | 13/02/2017 | 08/10/2020 | 08/10/2020 | 03/09/2020 | 28/02/2017 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | Units | | Lab Report Number | 580777 | 569585 | 574317 | GIR_2017 | 580779 | 580779 | 568519 | GIR_2017 |
| Bromodichloromethane | µg/L | | | - | - | - | <10 | - | - | - | <10 |
| cis-1,3-dichloropropene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Toluene | µg/L | 74[#2] | | <4 | <4 | 6 | <1 | <4 | <4 | - | <1 |
| trans-1,3-dichloropropene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,1,2-trichloroethane | µg/L | 400[#4] | | - | - | - | <1 | - | - | - | <1 |
| Tetrachloroethene | µg/L | 10[#1] | | - | - | - | <1 | - | - | - | <1 |
| 1,3-dichloropropane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Sum of PCE and TCE | µg/L | | | - | - | - | <2 | - | - | - | <2 |
| Chlorodibromomethane | µg/L | | | - | - | - | <3 | - | - | - | <3 |
| Chlorobenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,1,1,2-tetrachloroethane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Ethylbenzene | µg/L | 20[#4] | | <5 | <5 | <5 | <1 | <5 | <5 | - | <1 |
| Xylene (m & p) | µg/L | | | <8 | <8 | 10 | <1 | <8 | <8 | - | <1 |
| Xylene Total | µg/L | 30[#4] | | <11 | <11 | 19 | <2 | <11 | <11 | - | <2 |
| Xylene (o) | µg/L | | | <3 | <3 | 9 | <1 | <3 | <3 | - | <1 |
| Total BTEX | µg/L | | | <28 | <28 | <28 | - | <28 | <28 | - | - |
| Styrene | µg/L | 50[#4] | | - | - | - | <1 | - | - | - | <1 |
| Bromoform | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Isopropylbenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,1,2,2-tetrachloroethane | µg/L | 140[#2] | | - | - | - | <1 | - | - | - | <1 |
| Bromobenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,2,3-trichloropropane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| n-propylbenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 2-chlorotoluene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,3,5-trimethylbenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 4-chlorotoluene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| tert-butylbenzene | µg/L | | | - | - | - | <2 | - | - | - | <2 |
| 1,2,4-trimethylbenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| sec-butylbenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| p-isopropyltoluene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,3-dichlorobenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,4-dichlorobenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| n-butylbenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,2-dichlorobenzene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,2-dibromo-3-chloropropane | µg/L | | | - | - | - | <2 | - | - | - | <2 |
| 1,2,4-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | - | - | - | <3 | - | - | - | <3 |
| Hexachlorobutadiene | µg/L | 0.6[#6] | | - | - | - | <1 | - | - | - | <1 |
| 1,2,3-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | - | - | - | <3 | - | - | - | <3 |
| 1,2-Dichloroethene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| 1,2-Dibromomethane | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Trihalomethanes | µg/L | | | - | - | - | <15 | - | - | - | <15 |
| trans-1,2-Dibromoethene | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Carbon disulfide | µg/L | | | - | - | - | <1 | - | - | - | <1 |
| Hexachlorobenzene | µg/L | 0.05[#6] | | - | - | - | <10 | - | - | - | <2 |
| Trichlorobenzene (total) | µg/L | 0.4[#1] | | - | - | - | <6 | - | - | - | <6 |
| PAH | | | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | | <0.01 | <0.01 | 1.6 | <0.02 | <0.01 | <0.01 | <0.01 | <0.02 |
| Acenaphthylene | µg/L | | | <0.005 | <0.005 | 46.2 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 |
| Acenaphthene | µg/L | | | 0.0369 | 0.0237 | 51 | <0.02 | <0.005 | <0.005 | <0.005 | 0.06 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | | | | | Area_4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | BH72401 | BH72503 | CP72308 | R507A | R72006 | | R72101 | SA505 |
| | | | Depth Range (m) | 0.5 | 0.4-0.5 | 0.2-0.2 | 0.5-1 | 0.3 | 1 | 0.25 | 0.8-0.8 |
| | | | Date | 16/09/2020 | 17/09/2020 | 13/10/2020 | 13/02/2017 | 08/10/2020 | 08/10/2020 | 03/09/2020 | 28/02/2017 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | 580777 | 569585 | 574317 | GIR_2017 | 580779 | 580779 | 568519 | GIR_2017 |
| Fluorene | µg/L | | | 0.0271 | 0.00958 | 48.1 | 0.02 | <0.005 | <0.005 | <0.005 | 0.04 |
| Phenanthrene | µg/L | | | 0.308 | 0.0715 | 86.3 | 0.05 | <0.005 | <0.005 | <0.005 | <0.02 |
| Anthracene | µg/L | 0.1[#1] | | 0.0765 | 0.0262 | **16.4** | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 |
| Fluoranthene | µg/L | 0.0063[#1] | | **0.37** | **0.166** | **14** | <0.02 | <0.005 | <0.005 | <0.005 | **0.08** |
| Pyrene | µg/L | | | 0.248 | 0.148 | 9 | <0.02 | <0.005 | <0.005 | <0.005 | 0.07 |
| Benz(a)anthracene | µg/L | | | 0.022 | <0.005 | 0.666 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 |
| Chrysene | µg/L | | | 0.0225 | 0.0153 | 0.487 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | | <0.002 | <0.002 | **0.163** | <0.02 | <0.002 | <0.002 | <0.002 | <0.02 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | | <0.005 | <0.005 | 0.0662 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 |
| Dibenz(a,h)anthracene | µg/L | | | <0.005 | <0.005 | <0.005 | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | | <0.005 | <0.005 | **0.0723** | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 |
| Benzo(b)fluoranthene | µg/L | 0.017[#6] | | 0.00785 | 0.0133 | **0.211** | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 |
| Benzo(k)fluoranthene | µg/L | 0.017[#6] | | <0.005 | <0.005 | **0.107** | <0.02 | <0.005 | <0.005 | <0.005 | <0.02 |
| Benzo(b)&(k)fluoranthene | µg/L | | | 0.01285 | 0.0183 | 0.318 | <0.04 | <0.01 | <0.01 | <0.01 | <0.04 |
| PAHs (sum of 4) | µg/L | | | 0.02285 | 0.0283 | 0.4565 | <0.08 | <0.02 | <0.02 | <0.02 | <0.08 |
| PAH 16 Total | µg/L | | | - | - | - | 0.07 | - | - | - | 0.25 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.01 | <0.01 | 0.1385 | <0.04 | <0.01 | <0.01 | <0.01 | <0.04 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.002 | <0.002 | 0.163 | <0.02 | <0.002 | <0.002 | <0.002 | <0.02 |
| SVOC | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 50[#4] | | - | - | - | <10 | - | - | - | <2 |
| 2-methylphenol | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| 2-nitrophenol | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| 2,4-dichlorophenol | µg/L | 4.2[#2] | | - | - | - | <10 | - | - | - | <2 |
| 2,4-dimethylphenol | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| 2,4,5-trichlorophenol | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| 2,4,6-trichlorophenol | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| 4-chloro-3-methylphenol | µg/L | 40[#4] | | - | - | - | <10 | - | - | - | <2 |
| 4-methylphenol | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| 4-nitrophenol | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Pentachlorophenol | µg/L | 0.4[#1] | | - | - | - | <10 | - | - | - | <2 |
| Phenol | µg/L | 7.7[#2] | | <2 | <2 | <2 | <10 | <2 | <2 | - | <2 |
| 2-chloronaphthalene | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| 2-methylnaphthalene | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Bis(2-ethylhexyl) phthalate | µg/L | 1.3[#1] | | - | - | - | <20 | - | - | - | <4 |
| Butyl benzyl phthalate | µg/L | 7.5[#2] | | - | - | - | <10 | - | - | - | <2 |
| Di-n-butyl phthalate | µg/L | 8[#4] | | - | - | - | <10 | - | - | - | <2 |
| Di-n-octyl phthalate | µg/L | 20[#4] | | - | - | - | <50 | - | - | - | <10 |
| Diethylphthalate | µg/L | 200[#4] | | - | - | - | <10 | - | - | - | <2 |
| Dimethyl phthalate | µg/L | 800[#4] | | - | - | - | <10 | - | - | - | <2 |
| 4-bromophenyl phenyl ether | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Bis(2-chloroethoxy) methane | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Bis(2-chloroethyl)ether | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Carbazole | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Dibenzofuran | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Hexachlorocyclopentadiene | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Hexachloroethane | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Isophorone | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| N-nitrosodi-n-propylamine | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Perylene | µg/L | | | - | - | - | <10 | - | - | - | <2 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | | | | | Area_4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | BH72401 | BH72503 | CP72308 | R507A | R72006 | | R72101 | SA505 |
| | | | Depth Range (m) | 0.5 | 0.4-0.5 | 0.2-0.2 | 0.5-1 | 0.3 | 1 | 0.25 | 0.8-0.8 |
| | | | Date | 16/09/2020 | 17/09/2020 | 13/10/2020 | 13/02/2017 | 08/10/2020 | 08/10/2020 | 03/09/2020 | 28/02/2017 |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | | | Lab Report Number | 580777 | 569585 | 574317 | GIR_2017 | 580779 | 580779 | 568519 | GIR_2017 |
| Phenols | µg/L | | | - | - | - | <10 | - | - | - | - |
| Explosives | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| 2,6-dinitrotoluene | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Nitrobenzene | µg/L | | | - | - | - | <10 | - | - | - | <2 |
| Metals | | | | | | | | | | | |
| Antimony | µg/L | | | <1 | <1 | 1.83 | <1 | <1 | <1 | <1 | - |
| Arsenic | µg/L | 50[#2] | | <0.5 | <0.5 | 3.12 | <1 | <0.5 | <0.5 | 1.24 | 1 |
| Barium | µg/L | | | - | - | - | 9 | - | - | - | - |
| Beryllium | µg/L | | | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <1 |
| Boron | µg/L | 2,000[#4] | | <10 | <10 | 55 | <10 | 12 | <10 | 25.9 | <10 |
| Cadmium | µg/L | 0.08[#1] | | <0.08 | <0.08 | <0.08 | <1 | <0.08 | <0.08 | <0.08 | <1 |
| Calcium | mg/L | | | 12.5 | 19.2 | 86.3 | 24 | 29.7 | 15.2 | 60 | 24 |
| Chromium (III+VI) | µg/L | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Copper | µg/L | 1[#2] | | **1.52** | **2.78** | **4.93** | <1 | **2.21** | 0.896 | **5.44** | <1 |
| Iron | µg/L | 1,000[#2] | | <19 | <19 | 323 | - | <19 | <19 | <19 | - |
| Lead | µg/L | 1.2[#1] | | <0.2 | <0.2 | **10.7** | <1 | <0.2 | <0.2 | <0.2 | <1 |
| Magnesium | mg/L | | | - | - | - | <1 | - | - | - | <1 |
| Manganese | µg/L | 123[#2] | | <3 | <3 | 75.8 | <1 | <3 | <3 | <3 | <1 |
| Mercury | µg/L | 0.07[#6] | | <0.01 | <0.01 | <0.01 | <0.1 | <0.01 | <0.01 | <0.01 | 0.1 |
| Molybdenum | µg/L | | | <3 | <3 | 4.67 | <1 | <3 | <3 | 3.66 | <1 |
| Nickel | µg/L | 4[#1] | | 0.441 | 0.583 | 1.96 | 1 | 0.68 | 0.42 | 2.06 | <1 |
| Phosphorus | µg/L | See source document[#1] | | 46.6 | 15 | 41.3 | <20 | 41.2 | 22 | 189 | 68 |
| Selenium | µg/L | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Sodium | mg/L | | | - | - | - | 2 | - | - | - | 1 |
| Zinc | µg/L | 10.9[#2] | | 2.24 | <1 | 7.2 | 10 | 1.92 | 2.43 | 5.13 | 2 |
| Potassium | mg/L | | | - | - | - | <1 | - | - | - | 1 |
| Chromium (hexavalent) | µg/L | 3.4[#2] | | <30 | <30 | <30 | <50 | <30 | <30 | <30 | <50 |
| Chromium (Trivalent) | µg/L | 4.7[#2] | | <30 | <30 | <30 | <50 | <30 | <30 | <30 | <50 |
| Inorganics | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | <0.02 | - | - | - | 0.1 |
| Cyanide (Free) | mg/L | 0.001[#4] | | <0.05 | <0.05 | <0.05 | <0.005 | <0.05 | <0.05 | <0.05 | <0.005 |
| Cyanide Total | mg/L | 0.001[#2] | | <0.05 | <0.05 | <0.05 | <0.005 | <0.05 | <0.05 | <0.05 | <0.005 |
| Fluoride | mg/L | 1[#4] | | - | - | - | 0.24 | - | - | - | - |
| Sulphate | mg/L | 400[#4] | | - | - | - | 3.8 | - | - | - | 1.28 |
| Chloride | mg/L | 250[#4] | | - | - | - | 1.31 | - | - | - | <1 |
| Nitrate (as NO3-) | mg/L | | | - | - | - | 7.65 | - | - | - | <0.1 |
| Nitrite (as NO2-) | mg/L | | | - | - | - | <0.1 | - | - | - | <0.1 |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | | <0.2 | <0.2 | <0.2 | - | <0.2 | <0.2 | 0.236 | - |
| Sulphate (soluble) | mg/L | | | <2 | 8.2 | 3.4 | - | 9.2 | <2 | 15.5 | - |
| TDS | mg/L | | | - | - | - | 107 | - | - | - | - |
| Other | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 3.98 | 3.74 | 31.4 | 1.8 | 5.4 | 4.16 | 10.1 | 1.1 |
| pH (Lab) | pH_Units | | | 8.43 | 8.54 | 7.89 | - | 8.37 | 8.57 | 8.23 | - |
| Biological | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | 0 | - | - | - | 0 |
| Coliform | cfu/100ml | | | - | - | - | 0 | - | - | - | 0 |
| Dissolved Gases | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | <1 | - | - | - | <1 |

| | | EC Protective of Surface Water (EQS) | **Monitoring Zone** | | | | | | | | Area_4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Location** | BH72401 | BH72503 | CP72308 | R507A | R72006 | | R72101 | SA505 |
| | | | **Depth Range (m)** | 0.5 | 0.4-0.5 | 0.2-0.2 | 0.5-1 | 0.3 | 1 | 0.25 | 0.8-0.8 |
| | | | **Date** | 16/09/2020 | 17/09/2020 | 13/10/2020 | 13/02/2017 | 08/10/2020 | 08/10/2020 | 03/09/2020 | 28/02/2017 |
| | | | **Sample Type** | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal |
| | Units | | **Lab Report Number** | 580777 | 569585 | 574317 | GIR_2017 | 580779 | 580779 | 568519 | GIR_2017 |
| Dissolved Carbon Dioxide (CO2) | mg/L | [redacted] | | - | - | - | <1.3 | - | - | - | 1.4 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | [redacted] | | - | - | - | <1 | - | - | - | <1 |
| Dissolved Methane (CH4) SUBCON | µg/L | [redacted] | | - | - | - | <2 | - | - | - | <2.22 |
| Dissolved Propane (C3H8) | µg/L | [redacted] | | - | - | - | <1 | - | - | - | <1 |
| Field | | [redacted] | | | | | | | | | |
| Temp | oC | [redacted] | | 21.6 | 20.4 | 20.1 | - | 21.5 | 21.7 | 17.6 | - |

**Env Stds Comments**

#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limit value not present refer to value with '<' symbol.

**Key**

[redacted] Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | | | | Number of Results | Number of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | SA506 | STP72202A | STP72601 | STPES1 | STPES2 | STPES5 | WS72401 | | |
| | | | Depth Range (m) | 0-0.25 | 0.3 | 0.5 | 0.5 | 1 | 1 | 0.3 | | |
| | | | Date | 01/03/2017 | 02/10/2020 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 08/10/2020 | 24/09/2020 | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | |
| | | | Lab Report Number | GIR_2017 | 573946 | 575579 | 575579 | 575579 | 578687 | 571020 | | |
| **TPH** | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | - | <50 | <50 | <50 | <50 | <50 | <50 | 11 | 1 |
| >C5-C6 Aliphatics | µg/L | | | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 0 |
| >C6-C8 Aliphatics | µg/L | | | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 0 |
| >C8-C10 Aliphatics | µg/L | | | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 1 |
| >C10-C12 Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 1 |
| >C12-C16 Aliphatics | µg/L | | | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 0 |
| >C16-C21 Aliphatics | µg/L | | | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 0 |
| >C16-C35 Aliphatics | µg/L | | | <20 | <20 | <20 | <40 | <20 | <20 | <20 | 15 | 0 |
| >C21-C35 Aliphatics | µg/L | | | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 0 |
| >C12-C35 Aliphatics | µg/L | | | - | <10 | <10 | <20 | <10 | <10 | <10 | 12 | 0 |
| >EC5-EC7 Aromatics | µg/L | 10[#1] | | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 0 |
| >EC7-EC8 Aromatics | µg/L | 74[#2] | | <1 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 0 |
| >EC8-EC10 Aromatics | µg/L | | | - | <10 | <10 | <10 | <10 | <10 | <10 | 11 | 1 |
| >EC8-EC9 Aromatics | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| >EC9-EC10 Aromatics | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| >EC10-EC12 Aromatics | µg/L | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 14 | 1 |
| >EC12-EC16 Aromatics | µg/L | | | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 1 |
| >EC16-EC21 Aromatics | µg/L | | | <10 | <10 | <10 | <20 | <10 | <10 | <10 | 15 | 1 |
| >EC16-EC35 Aromatics | µg/L | | | - | <10 | <10 | <20 | <10 | <10 | <10 | 12 | 1 |
| >EC21-EC35 Aromatics | µg/L | | | - | <10 | <10 | <20 | <10 | <10 | <10 | 12 | 1 |
| >EC12-EC35 Aromatics | µg/L | | | - | <10 | <10 | <20 | <10 | <10 | <10 | 12 | 1 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | - | <10 | <10 | <10 | <10 | <10 | <10 | 11 | 1 |
| Total Aliphatics | µg/L | | | <10 | - | - | - | - | - | - | 3 | 0 |
| Total Aromatics | µg/L | | | <10 | - | - | - | - | - | - | 3 | 0 |
| TPH (Ali & Aro) | µg/L | | | <10 | - | - | - | - | - | - | 3 | 0 |
| VOC | | | | | | | | | | | | |
| Dichlorodifluoromethane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| MTBE | µg/L | 5,100[#3] | | <1 | <3 | <3 | <3 | <3 | <3 | <3 | 14 | 0 |
| Chloromethane | µg/L | | | <10 | - | - | - | - | - | - | 3 | 0 |
| Vinyl chloride | µg/L | 77[#3] | | <1 | - | - | - | - | - | - | 3 | 0 |
| Bromomethane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Chloroethane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Trichlorofluoromethane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,1-dichloroethene | µg/L | 9[#3] | | <1 | - | - | - | - | - | - | 3 | 0 |
| Dichloromethane | µg/L | 20[#1] | | <15 | - | - | - | - | - | - | 3 | 0 |
| 1,1-dichloroethane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| cis-1,2-dichloroethene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 2,2-dichloropropane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Bromochloromethane | µg/L | | | <5 | - | - | - | - | - | - | 3 | 0 |
| Chloroform | µg/L | 2.5[#1] | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,1,1-trichloroethane | µg/L | 100[#4] | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,1-dichloropropene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Carbon tetrachloride | µg/L | 12[#1] | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,2-dichloroethane | µg/L | 10[#1] | | <2 | - | - | - | - | - | - | 3 | 0 |
| Benzene | µg/L | 10[#1] | | <1 | <7 | <7 | <7 | <7 | <7 | <7 | 14 | 0 |
| Trichloroethene | µg/L | 10[#1] | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,2-dichloropropane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Dibromomethane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | | | | Number of Results | Number of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | SA506 | STP72202A | STP72601 | STPES1 | STPES2 | STPES5 | WS72401 | | |
| | | | Depth Range (m) | 0-0.25 | 0.3 | 0.5 | 0.5 | 1 | 1 | 0.3 | | |
| | | | Date | 01/03/2017 | 02/10/2020 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 08/10/2020 | 24/09/2020 | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | |
| | | | Lab Report Number | GIR_2017 | 573946 | 575579 | 575579 | 575579 | 578687 | 571020 | | |
| Bromodichloromethane | µg/L | | | <10 | - | - | - | - | - | - | 3 | 0 |
| cis-1,3-dichloropropene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Toluene | µg/L | 74[#2] | | <1 | <4 | <4 | <4 | <4 | <4 | <4 | 14 | 1 |
| trans-1,3-dichloropropene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,1,2-trichloroethane | µg/L | 400[#4] | | <1 | - | - | - | - | - | - | 3 | 0 |
| Tetrachloroethene | µg/L | 10[#1] | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,3-dichloropropane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Sum of PCE and TCE | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Chlorodibromomethane | µg/L | | | <3 | - | - | - | - | - | - | 3 | 0 |
| Chlorobenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Ethylbenzene | µg/L | 20[#4] | | <1 | <5 | <5 | <5 | <5 | <5 | <5 | 14 | 0 |
| Xylene (m & p) | µg/L | | | <1 | <8 | <8 | <8 | <8 | <8 | <8 | 14 | 1 |
| Xylene Total | µg/L | 30[#4] | | <2 | <11 | <11 | <11 | <11 | <11 | <11 | 14 | 1 |
| Xylene (o) | µg/L | | | <1 | <3 | <3 | <3 | <3 | <3 | <3 | 14 | 1 |
| Total BTEX | µg/L | | | - | <28 | <28 | <28 | <28 | <28 | <28 | 11 | 0 |
| Styrene | µg/L | 50[#4] | | <1 | - | - | - | - | - | - | 3 | 0 |
| Bromoform | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Isopropylbenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 140[#2] | | <1 | - | - | - | - | - | - | 3 | 0 |
| Bromobenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,2,3-trichloropropane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| n-propylbenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 2-chlorotoluene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,3,5-trimethylbenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 4-chlorotoluene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| tert-butylbenzene | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 1,2,4-trimethylbenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| sec-butylbenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| p-isopropyltoluene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,3-dichlorobenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,4-dichlorobenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| n-butylbenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,2-dichlorobenzene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 1,2,4-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | <3 | - | - | - | - | - | - | 3 | 0 |
| Hexachlorobutadiene | µg/L | 0.6[#6] | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,2,3-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | <3 | - | - | - | - | - | - | 3 | 0 |
| 1,2-Dichloroethene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| 1,2-Dibromomethane | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Trihalomethanes | µg/L | | | <15 | - | - | - | - | - | - | 3 | 0 |
| trans-1,2-Dibromoethene | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Carbon disulfide | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |
| Hexachlorobenzene | µg/L | 0.05[#6] | | <2 | - | - | - | - | - | - | 3 | 0 |
| Trichlorobenzene (total) | µg/L | 0.4[#1] | | <6 | - | - | - | - | - | - | 3 | 0 |
| PAH | | | | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | | <0.02 | <0.01 | <0.01 | 0.0267 | 0.0168 | 0.0104 | <0.01 | 15 | 4 |
| Acenaphthylene | µg/L | | | <0.02 | <0.005 | <0.005 | <0.01 | 0.0484 | 0.026 | <0.005 | 15 | 3 |
| Acenaphthene | µg/L | | | <0.02 | <0.005 | 0.0205 | <0.01 | 0.0825 | 0.0417 | 0.0201 | 15 | 8 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | | | | Number of Results | Number of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | SA506 | STP72202A | STP72601 | STPES1 | STPES2 | STPES5 | WS72401 | | |
| | | | Depth Range (m) | 0-0.25 | 0.3 | 0.5 | 0.5 | 1 | 1 | 0.3 | | |
| | | | Date | 01/03/2017 | 02/10/2020 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 08/10/2020 | 24/09/2020 | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | |
| | | | Lab Report Number | GIR_2017 | 573946 | 575579 | 575579 | 575579 | 578687 | 571020 | | |
| Fluorene | µg/L | | | <0.02 | <0.005 | 0.0123 | 0.0149 | 0.0427 | 0.0229 | 0.0125 | 15 | 10 |
| Phenanthrene | µg/L | | | <0.02 | <0.005 | 0.0716 | 0.0783 | 0.294 | 0.0942 | 0.0946 | 15 | 9 |
| Anthracene | µg/L | 0.1[#1] | | <0.02 | <0.005 | 0.015 | 0.0199 | 0.0747 | 0.0868 | 0.016 | 15 | 8 |
| Fluoranthene | µg/L | 0.0063[#1] | | <0.02 | <0.005 | **0.0263** | **0.166** | **0.251** | **0.0825** | **0.0956** | 15 | 9 |
| Pyrene | µg/L | | | <0.02 | <0.005 | 0.017 | 0.121 | 0.194 | 0.0678 | 0.0431 | 15 | 9 |
| Benz(a)anthracene | µg/L | | | <0.02 | <0.005 | <0.005 | 0.0432 | 0.0528 | 0.0412 | <0.005 | 15 | 5 |
| Chrysene | µg/L | | | <0.02 | <0.005 | <0.005 | 0.069 | 0.0588 | 0.0444 | 0.0135 | 15 | 7 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | | <0.02 | <0.002 | <0.002 | **0.0732** | **0.0525** | **0.0504** | **0.00888** | 15 | 5 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | | <0.02 | <0.005 | <0.005 | 0.0636 | 0.0785 | 0.0516 | <0.005 | 15 | 4 |
| Dibenz(a,h)anthracene | µg/L | | | <0.02 | <0.005 | <0.005 | <0.01 | 0.0146 | 0.0113 | <0.005 | 15 | 2 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | | <0.02 | <0.005 | <0.005 | **0.145** | **0.199** | **0.134** | <0.005 | 15 | 4 |
| Benzo(b)fluoranthene | µg/L | 0.017[#6] | | <0.02 | <0.005 | <0.005 | **0.143** | **0.0937** | **0.068** | 0.0165 | 15 | 7 |
| Benzo(k)fluoranthene | µg/L | 0.017[#6] | | <0.02 | <0.005 | <0.005 | **0.06** | **0.0304** | **0.0316** | 0.00503 | 15 | 5 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.04 | <0.01 | <0.01 | 0.203 | 0.1241 | 0.0996 | 0.02153 | 15 | 7 |
| PAHs (sum of 4) | µg/L | | | <0.08 | <0.02 | <0.02 | 0.4116 | 0.4016 | 0.2852 | 0.03153 | 15 | 7 |
| PAH 16 Total | µg/L | | | <0.02 | - | - | - | - | - | - | 3 | 2 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.04 | <0.01 | <0.01 | 0.2086 | 0.2775 | 0.1856 | <0.01 | 15 | 4 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.02 | <0.002 | <0.002 | 0.0732 | 0.0525 | 0.0504 | 0.00888 | 15 | 5 |
| SVOC | | | | | | | | | | | | |
| 2-chlorophenol | µg/L | 50[#4] | | <2 | - | - | - | - | - | - | 3 | 0 |
| 2-methylphenol | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 2-nitrophenol | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 2,4-dichlorophenol | µg/L | 4.2[#2] | | <2 | - | - | - | - | - | - | 3 | 0 |
| 2,4-dimethylphenol | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 2,4,5-trichlorophenol | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 2,4,6-trichlorophenol | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 4-chloro-3-methylphenol | µg/L | 40[#4] | | <2 | - | - | - | - | - | - | 3 | 0 |
| 4-methylphenol | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 4-nitrophenol | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Pentachlorophenol | µg/L | 0.4[#1] | | <2 | - | - | - | - | - | - | 3 | 0 |
| Phenol | µg/L | 7.7[#2] | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 14 | 0 |
| 2-chloronaphthalene | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 2-methylnaphthalene | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 1.3[#1] | | <4 | - | - | - | - | - | - | 3 | 0 |
| Butyl benzyl phthalate | µg/L | 7.5[#2] | | <2 | - | - | - | - | - | - | 3 | 0 |
| Di-n-butyl phthalate | µg/L | 8[#4] | | <2 | - | - | - | - | - | - | 3 | 0 |
| Di-n-octyl phthalate | µg/L | 20[#4] | | <10 | - | - | - | - | - | - | 3 | 0 |
| Diethylphthalate | µg/L | 200[#4] | | <2 | - | - | - | - | - | - | 3 | 0 |
| Dimethyl phthalate | µg/L | 800[#4] | | <2 | - | - | - | - | - | - | 3 | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Bis(2-chloroethoxy) methane | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Bis(2-chloroethyl)ether | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Carbazole | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Dibenzofuran | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Hexachlorocyclopentadiene | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Hexachloroethane | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Isophorone | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| N-nitrosodi-n-propylamine | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Perylene | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | | | | Number of Results | Number of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | SA506 | STP72202A | STP72601 | STPES1 | STPES2 | STPES5 | WS72401 | | |
| | | | Depth Range (m) | 0-0.25 | 0.3 | 0.5 | 0.5 | 1 | 1 | 0.3 | | |
| | | | Date | 01/03/2017 | 02/10/2020 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 08/10/2020 | 24/09/2020 | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | |
| | | | Lab Report Number | GIR_2017 | 573946 | 575579 | 575579 | 575579 | 578687 | 571020 | | |
| Phenols | µg/L | | | <10 | - | - | - | - | - | - | 2 | 0 |
| Explosives | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| 2,6-dinitrotoluene | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Nitrobenzene | µg/L | | | <2 | - | - | - | - | - | - | 3 | 0 |
| Metals | | | | | | | | | | | | |
| Antimony | µg/L | | | <1 | <1 | <1 | 8.97 | 2.37 | 2.69 | <1 | 14 | 4 |
| Arsenic | µg/L | 50[#2] | | <1 | 0.63 | <0.5 | 3.4 | 2.72 | 4.27 | 0.758 | 15 | 8 |
| Barium | µg/L | | | 10 | - | - | - | - | - | - | 2 | 2 |
| Beryllium | µg/L | | | <1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 15 | 0 |
| Boron | µg/L | 2,000[#4] | | 16 | 13 | <10 | 91.3 | 26 | 37.2 | 16.4 | 15 | 9 |
| Cadmium | µg/L | 0.08[#1] | | <1 | <0.08 | <0.08 | **0.146** | <0.08 | <0.08 | <0.08 | 15 | 1 |
| Calcium | mg/L | | | 48 | 57 | 22.1 | 35.3 | 15.7 | 24.1 | 61.7 | 15 | 15 |
| Chromium (III+VI) | µg/L | | | <1 | <1 | <1 | 4.65 | <1 | <1 | <1 | 15 | 1 |
| Copper | µg/L | 1[#2] | | **2** | **4.52** | **3.63** | **29.4** | **7.11** | **13.7** | **2.64** | 15 | 13 |
| Iron | µg/L | 1,000[#2] | | - | <19 | <19 | 344 | 49.8 | <19 | <19 | 12 | 3 |
| Lead | µg/L | 1.2[#1] | | <1 | <0.2 | <0.2 | **3.98** | 0.488 | <0.2 | <0.2 | 15 | 3 |
| Magnesium | mg/L | | | 1 | - | - | - | - | - | - | 3 | 1 |
| Manganese | µg/L | 123[#2] | | <1 | <3 | 15.1 | 12.6 | <3 | <3 | <3 | 15 | 3 |
| Mercury | µg/L | 0.07[#6] | | <0.1 | <0.01 | <0.01 | 0.014 | <0.01 | 0.0164 | <0.01 | 15 | 3 |
| Molybdenum | µg/L | | | 1 | <3 | <3 | 25.7 | 6.24 | 22.8 | <3 | 15 | 6 |
| Nickel | µg/L | 4[#1] | | 2 | 1.2 | 0.661 | 3.8 | 1.29 | 1.68 | 1.09 | 15 | 14 |
| Phosphorus | µg/L | See source document[#1] | | 133 | 60.5 | 20.9 | 193 | 47.2 | 622 | 80.3 | 15 | 14 |
| Selenium | µg/L | | | <1 | <1 | <1 | 1.03 | <1 | <1 | <1 | 15 | 1 |
| Sodium | mg/L | | | 2 | - | - | - | - | - | - | 3 | 3 |
| Zinc | µg/L | 10.9[#2] | | 6 | <1 | 1.41 | **52.1** | 2.23 | 2.56 | 3 | 15 | 13 |
| Potassium | mg/L | | | <1 | - | - | - | - | - | - | 3 | 1 |
| Chromium (hexavalent) | µg/L | 3.4[#2] | | <50 | <30 | <30 | <30 | <30 | <30 | <30 | 15 | 0 |
| Chromium (Trivalent) | µg/L | 4.7[#2] | | <50 | <30 | <30 | <30 | - | <30 | <30 | 14 | 0 |
| Inorganics | | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | 0.76 | - | - | - | - | - | - | 3 | 2 |
| Cyanide (Free) | mg/L | 0.001[#4] | | <0.005 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 15 | 0 |
| Cyanide Total | mg/L | 0.001[#2] | | <0.005 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 15 | 0 |
| Fluoride | mg/L | 1[#4] | | 0.25 | - | - | - | - | - | - | 2 | 2 |
| Sulphate | mg/L | 400[#4] | | <1 | - | - | - | - | - | - | 3 | 2 |
| Chloride | mg/L | 250[#4] | | <1 | - | - | - | - | - | - | 3 | 1 |
| Nitrate (as NO3-) | mg/L | | | 38.61 | - | - | - | - | - | - | 3 | 2 |
| Nitrite (as NO2-) | mg/L | | | <0.1 | - | - | - | - | - | - | 3 | 0 |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | | - | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 12 | 1 |
| Sulphate (soluble) | mg/L | | | - | 11.6 | <2 | 42 | 10 | <2 | 2.8 | 12 | 8 |
| TDS | mg/L | | | 91 | - | - | - | 61.5 | - | - | 3 | 3 |
| Other | | | | | | | | | | | | |
| Dissolved Organic Carbon | mg/L | | | 5.1 | 7.5 | 5.32 | 21 | 3.71 - 6.71 | 11.4 | 10.5 | 15 | 15 |
| pH (Lab) | pH_Units | | | - | 8.41 | 8.13 | 8.4 | 8.5 | 8.83 | 8.35 | 12 | 12 |
| Biological | | | | | | | | | | | | |
| E coli | cfu/100ml | | | 0 | - | - | - | - | - | - | 3 | 3 |
| Coliform | cfu/100ml | | | 14 | - | - | - | - | - | - | 3 | 3 |
| Dissolved Gases | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | <1 | - | - | - | - | - | - | 3 | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | | | | | | | Number of Results | Number of Detects |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | SA506 | STP72202A | STP72601 | STPES1 | STPES2 | STPES5 | WS72401 | | |
| | | | Depth Range (m) | 0-0.25 | 0.3 | 0.5 | 0.5 | 1 | 1 | 0.3 | | |
| | | | Date | 01/03/2017 | 02/10/2020 | 07/10/2020 | 06/10/2020 | 06/10/2020 | 08/10/2020 | 24/09/2020 | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | |
| | | | Lab Report Number | GIR_2017 | 573946 | 575579 | 575579 | 575579 | 578687 | 571020 | | |
| Dissolved Carbon Dioxide (CO2) | mg/L | [redacted] | | 4.3 | - | - | - | - | - | - | 3 | 2 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | [redacted] | | <1 | - | - | - | - | - | - | 3 | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | [redacted] | | 1 | - | - | - | - | - | - | 3 | 1 |
| Dissolved Propane (C3H8) | µg/L | [redacted] | | <1 | - | - | - | - | - | - | 3 | 0 |
| Field | | [redacted] | | | | | | | | | | |
| Temp | oC | [redacted] | | - | 19.6 | 20 | 20 | 15.6 | 18.9 | 20 | 12 | 12 |

**Env Stds Comments**

#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limit value not present refer to value with '<' symbol.

**Key**

[redacted] Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Surface Water (EQS) | **Monitoring Zone**<br>**Location**<br>**Depth Range (m)**<br>**Date**<br>**Sample Type**<br>**Lab Report Number** | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|
| **TPH** | | | | | |
| GRO >C5-C12 | µg/L | | | 440 | 0 |
| >C5-C6 Aliphatics | µg/L | | | ND | 0 |
| >C6-C8 Aliphatics | µg/L | | | ND | 0 |
| >C8-C10 Aliphatics | µg/L | | | 50 | 0 |
| >C10-C12 Aliphatics | µg/L | | | 189 | 0 |
| >C12-C16 Aliphatics | µg/L | | | ND | 0 |
| >C16-C21 Aliphatics | µg/L | | | ND | 0 |
| >C16-C35 Aliphatics | µg/L | | | ND | 0 |
| >C21-C35 Aliphatics | µg/L | | | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 10[#1] | | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 74[#2] | | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | | | 55 | 0 |
| >EC8-EC9 Aromatics | µg/L | | | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | | | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | | | 126 | 0 |
| >EC12-EC16 Aromatics | µg/L | | | 759 | 0 |
| >EC16-EC21 Aromatics | µg/L | | | 595 | 0 |
| >EC16-EC35 Aromatics | µg/L | | | 634 | 0 |
| >EC21-EC35 Aromatics | µg/L | | | 39 | 0 |
| >EC12-EC35 Aromatics | µg/L | | | 1390 | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | 1830 | 0 |
| Total Aliphatics | µg/L | | | ND | 0 |
| Total Aromatics | µg/L | | | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | ND | 0 |
| VOC | | | | | |
| Dichlorodifluoromethane | µg/L | | | ND | 0 |
| MTBE | µg/L | 5,100[#3] | | ND | 0 |
| Chloromethane | µg/L | | | ND | 0 |
| Vinyl chloride | µg/L | 77[#3] | | ND | 0 |
| Bromomethane | µg/L | | | ND | 0 |
| Chloroethane | µg/L | | | ND | 0 |
| Trichlorofluoromethane | µg/L | | | ND | 0 |
| 1,1-dichloroethene | µg/L | 9[#3] | | ND | 0 |
| Dichloromethane | µg/L | 20[#1] | | ND | 0 |
| 1,1-dichloroethane | µg/L | | | ND | 0 |
| cis-1,2-dichloroethene | µg/L | | | ND | 0 |
| 2,2-dichloropropane | µg/L | | | ND | 0 |
| Bromochloromethane | µg/L | | | ND | 0 |
| Chloroform | µg/L | 2.5[#1] | | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 100[#4] | | ND | 0 |
| 1,1-dichloropropene | µg/L | | | ND | 0 |
| Carbon tetrachloride | µg/L | 12[#1] | | ND | 0 |
| 1,2-dichloroethane | µg/L | 10[#1] | | ND | 0 |
| Benzene | µg/L | 10[#1] | | ND | 0 |
| Trichloroethene | µg/L | 10[#1] | | ND | 0 |
| 1,2-dichloropropane | µg/L | | | ND | 0 |
| Dibromomethane | µg/L | | | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | **Monitoring Zone**<br>**Location**<br>**Depth Range (m)**<br>**Date**<br>**Sample Type**<br>**Lab Report Number** | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|
| Bromodichloromethane | µg/L | | | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | ND | 0 |
| Toluene | µg/L | 74[#2] | | 6 | 0 |
| trans-1,3-dichloropropene | µg/L | | | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 400[#4] | | ND | 0 |
| Tetrachloroethene | µg/L | 10[#1] | | ND | 0 |
| 1,3-dichloropropane | µg/L | | | ND | 0 |
| Sum of PCE and TCE | µg/L | | | ND | 0 |
| Chlorodibromomethane | µg/L | | | ND | 0 |
| Chlorobenzene | µg/L | | | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | | | ND | 0 |
| Ethylbenzene | µg/L | 20[#4] | | ND | 0 |
| Xylene (m & p) | µg/L | | | 10 | 0 |
| Xylene Total | µg/L | 30[#4] | | 19 | 0 |
| Xylene (o) | µg/L | | | 9 | 0 |
| Total BTEX | µg/L | | | ND | 0 |
| Styrene | µg/L | 50[#4] | | ND | 0 |
| Bromoform | µg/L | | | ND | 0 |
| Isopropylbenzene | µg/L | | | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 140[#2] | | ND | 0 |
| Bromobenzene | µg/L | | | ND | 0 |
| 1,2,3-trichloropropane | µg/L | | | ND | 0 |
| n-propylbenzene | µg/L | | | ND | 0 |
| 2-chlorotoluene | µg/L | | | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | | | ND | 0 |
| 4-chlorotoluene | µg/L | | | ND | 0 |
| tert-butylbenzene | µg/L | | | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | | | ND | 0 |
| sec-butylbenzene | µg/L | | | ND | 0 |
| p-isopropyltoluene | µg/L | | | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | ND | 0 |
| 1,4-dichlorobenzene | µg/L | | | ND | 0 |
| n-butylbenzene | µg/L | | | ND | 0 |
| 1,2-dichlorobenzene | µg/L | | | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | | | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.6[#6] | | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#5] | | ND | 0 |
| 1,2-Dichloroethene | µg/L | | | ND | 0 |
| 1,2-Dibromomethane | µg/L | | | ND | 0 |
| Trihalomethanes | µg/L | | | ND | 0 |
| trans-1,2-Dibromoethene | µg/L | | | ND | 0 |
| Carbon disulfide | µg/L | | | ND | 0 |
| Hexachlorobenzene | µg/L | 0.05[#6] | | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.4[#1] | | ND | 0 |
| PAH | | | | | |
| Naphthalene | µg/L | 2[#1] | | 1.6 | 0 |
| Acenaphthylene | µg/L | | | 46.2 | 0 |
| Acenaphthene | µg/L | | | 51 | 0 |

| | Units | EC Protective of Surface Water (EQS) | **Monitoring Zone**<br>**Location**<br>**Depth Range (m)**<br>**Date**<br>**Sample Type**<br>**Lab Report Number** | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|
| Fluorene | µg/L | | | 48.1 | 0 |
| Phenanthrene | µg/L | | | 86.3 | 0 |
| Anthracene | µg/L | **0.1**[#1] | | 16.4 | 1 |
| Fluoranthene | µg/L | **0.0063**[#1] | | 14 | 9 |
| Pyrene | µg/L | | | 9 | 0 |
| Benz(a)anthracene | µg/L | | | 0.666 | 0 |
| Chrysene | µg/L | | | 0.487 | 0 |
| Benzo(a) pyrene | µg/L | **0.00017**[#1] | | 0.163 | 5 |
| Indeno(1,2,3-c,d)pyrene | µg/L | **see BaP and notes**[#5] | | 0.0785 | 0 |
| Dibenz(a,h)anthracene | µg/L | | | 0.0146 | 0 |
| Benzo(g,h,i)perylene | µg/L | **0.0082**[#6] | | 0.199 | 4 |
| Benzo(b)fluoranthene | µg/L | **0.017**[#6] | | 0.211 | 4 |
| Benzo(k)fluoranthene | µg/L | **0.017**[#6] | | 0.107 | 4 |
| Benzo(b)&(k)fluoranthene | µg/L | | | 0.318 | 0 |
| PAHs (sum of 4) | µg/L | | | 0.4565 | 0 |
| PAH 16 Total | µg/L | | | 0.25 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | 0.2775 | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | 0.163 | 0 |
| SVOC | | | | | |
| 2-chlorophenol | µg/L | **50**[#4] | | ND | 0 |
| 2-methylphenol | µg/L | | | ND | 0 |
| 2-nitrophenol | µg/L | | | ND | 0 |
| 2,4-dichlorophenol | µg/L | **4.2**[#2] | | ND | 0 |
| 2,4-dimethylphenol | µg/L | | | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | | | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | | | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | **40**[#4] | | ND | 0 |
| 4-methylphenol | µg/L | | | ND | 0 |
| 4-nitrophenol | µg/L | | | ND | 0 |
| Pentachlorophenol | µg/L | **0.4**[#1] | | ND | 0 |
| Phenol | µg/L | **7.7**[#2] | | ND | 0 |
| 2-chloronaphthalene | µg/L | | | ND | 0 |
| 2-methylnaphthalene | µg/L | | | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | **1.3**[#1] | | ND | 0 |
| Butyl benzyl phthalate | µg/L | **7.5**[#2] | | ND | 0 |
| Di-n-butyl phthalate | µg/L | **8**[#4] | | ND | 0 |
| Di-n-octyl phthalate | µg/L | **20**[#4] | | ND | 0 |
| Diethylphthalate | µg/L | **200**[#4] | | ND | 0 |
| Dimethyl phthalate | µg/L | **800**[#4] | | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | | | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | | | ND | 0 |
| Carbazole | µg/L | | | ND | 0 |
| Dibenzofuran | µg/L | | | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | | | ND | 0 |
| Hexachloroethane | µg/L | | | ND | 0 |
| Isophorone | µg/L | | | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | | | ND | 0 |
| Perylene | µg/L | | | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | **Monitoring Zone**<br>**Location**<br>**Depth Range (m)**<br>**Date**<br>**Sample Type**<br>**Lab Report Number** | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|
| Phenols | µg/L | | | ND | 0 |
| Explosives | | | | | |
| 2,4-Dinitrotoluene | µg/L | | | ND | 0 |
| 2,6-dinitrotoluene | µg/L | | | ND | 0 |
| Nitrobenzene | µg/L | | | ND | 0 |
| Metals | | | | | |
| Antimony | µg/L | | | 8.97 | 0 |
| Arsenic | µg/L | **50**[#2] | | 4.27 | 0 |
| Barium | µg/L | | | 10 | 0 |
| Beryllium | µg/L | | | ND | 0 |
| Boron | µg/L | **2,000**[#4] | | 91.3 | 0 |
| Cadmium | µg/L | **0.08**[#1] | | 0.146 | 1 |
| Calcium | mg/L | | | 86.3 | 0 |
| Chromium (III+VI) | µg/L | | | 4.65 | 0 |
| Copper | µg/L | **1**[#2] | | 29.4 | 12 |
| Iron | µg/L | **1,000**[#2] | | 344 | 0 |
| Lead | µg/L | **1.2**[#1] | | 10.7 | 2 |
| Magnesium | mg/L | | | 1 | 0 |
| Manganese | µg/L | **123**[#2] | | 75.8 | 0 |
| Mercury | µg/L | **0.07**[#6] | | 0.1 | 0 |
| Molybdenum | µg/L | | | 25.7 | 0 |
| Nickel | µg/L | **4**[#1] | | 3.8 | 0 |
| Phosphorus | µg/L | **See source document**[#1] | | 622 | 0 |
| Selenium | µg/L | | | 1.03 | 0 |
| Sodium | mg/L | | | 2 | 0 |
| Zinc | µg/L | **10.9**[#2] | | 52.1 | 1 |
| Potassium | mg/L | | | 1 | 0 |
| Chromium (hexavalent) | µg/L | **3.4**[#2] | | ND | 0 |
| Chromium (Trivalent) | µg/L | **4.7**[#2] | | ND | 0 |
| Inorganics | | | | | |
| Ammoniacal Nitrogen | mg/L | | | 0.76 | 0 |
| Cyanide (Free) | mg/L | **0.001**[#4] | | ND | 0 |
| Cyanide Total | mg/L | **0.001**[#2] | | ND | 0 |
| Fluoride | mg/L | **1**[#4] | | 0.25 | 0 |
| Sulphate | mg/L | **400**[#4] | | 3.8 | 0 |
| Chloride | mg/L | **250**[#4] | | 1.31 | 0 |
| Nitrate (as NO3-) | mg/L | | | 38.61 | 0 |
| Nitrite (as NO2-) | mg/L | | | ND | 0 |
| Ammoniacal Nitrogen as N | mg/L | **300 (total ammonia as nitrogen)**[#2] | | 0.236 | 0 |
| Sulphate (soluble) | mg/L | | | 42 | 0 |
| TDS | mg/L | | | 107 | 0 |
| Other | | | | | |
| Dissolved Organic Carbon | mg/L | | | 31.4 | 0 |
| pH (Lab) | pH_Units | | | 8.83 | 0 |
| Biological | | | | | |
| E coli | cfu/100ml | | | ND | 0 |
| Coliform | cfu/100ml | | | 14 | 0 |
| Dissolved Gases | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | **Monitoring Zone**<br>**Location**<br>**Depth Range (m)**<br>**Date**<br>**Sample Type**<br>**Lab Report Number** | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|
| Dissolved Carbon Dioxide (CO2) | mg/L | [redacted] | | 4.3 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | [redacted] | | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | [redacted] | | 1 | 0 |
| Dissolved Propane (C3H8) | µg/L | [redacted] | | ND | 0 |
| Field | | [redacted] | | | |
| Temp | oC | [redacted] | | 21.7 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where Method Detection Limit value not present refer to value with '<' symbol.

**Key**
[redacted] Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 1 | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71001 | R71002 | | | | |
| | | | Date | 10/07/2019 | 04/07/2019 | | | | |
| | | | Sample Type | Normal | Normal | | | | |
| | | | Lab Report Number | 19-13307 | 19-13379 | | | | |
| **TPH** | | | | | | | | | |
| >C5-C6 Aliphatics | µg/L | 15,000[#1] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | 15,000[#1] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | 300[#1] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | 300[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | 300[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | 300[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | 300[#1] | | <2 | <2 | 2 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | 300[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C5-C35 Aliphatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| >C6-C7 Aromatics | µg/L | 1[#2] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C7-C8 Aromatics | µg/L | 700[#3] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C8 -C10 Aromatics | µg/L | 300[#3] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | 90[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | 90[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | 90[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | 90[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C5-C35 Aromatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| VOC | | | | | | | | | |
| Benzene | µg/L | 1[#2] | | <1 | <1 | 2 | 0 | ND | 0 |
| Toluene | µg/L | 700[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 300[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| Xylene Total | µg/L | 500[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| PAH | | | | | | | | | |
| Naphthalene | µg/L | 6[#4] | | 0.16 | <0.05 | 2 | 1 | 0.16 | 0 |
| Acenaphthylene | µg/L | 18[#4] | | 0.05 | <0.01 | 2 | 1 | 0.05 | 0 |
| Acenaphthene | µg/L | 18[#4] | | 0.07 | <0.01 | 2 | 1 | 0.07 | 0 |
| Fluorene | µg/L | 12[#4] | | 0.1 | 0.01 | 2 | 2 | 0.1 | 0 |
| Phenanthrene | µg/L | 4[#4] | | 0.2 | <0.01 | 2 | 1 | 0.2 | 0 |
| Anthracene | µg/L | 90[#4] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Fluoranthene | µg/L | 4[#3] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Pyrene | µg/L | 9[#4] | | 0.03 | 0.03 | 2 | 2 | 0.03 | 0 |
| Benz(a)anthracene | µg/L | 3.5[#4] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chrysene | µg/L | 7[#4] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(a) pyrene | µg/L | 0.01[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | 0.07[#4] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| PAHs (Sum of total) | µg/L | | | 0.63 | <0.2 | 2 | 1 | 0.63 | 0 |
| PAHs (sum of 4) | µg/L | 0.1[#2] | | <0.04 | <0.04 | 2 | 0 | ND | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| SVOC | | | | | | | | | |
| Phenol | µg/L | 5,800[#5] | | 6.2 | <1.5 | 2 | 1 | 6.2 | 0 |
| PCBs | | | | | | | | | |
| PCB 118+123 | µg/L | | | <0.6 | <0.6 | 2 | 0 | ND | 0 |
| PCB congener 28 + 31 | µg/L | | | <0.3 | <0.3 | 2 | 0 | ND | 0 |
| PCB 52 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 101 | µg/L | | | <0.3 | <0.3 | 2 | 0 | ND | 0 |
| PCB 138 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 153 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 180 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| Total PCB 7 Congeners | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| Herbicides and Pesticides | | | | | | | | | |
| Bolstar | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Tokuthion | mg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Azinophos methyl | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Diazinon | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Dichlorvos | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Fenthion | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Methyl parathion | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Coumaphos | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Demeton-O | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Demeton-S | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Disulfoton | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Ethoprop | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Fensulfothion | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Merphos | µg/L | 0.6[#5] | | <10 | <10 | 2 | 0 | ND | 0 |
| Naled (Dibrom) | µg/L | 40[#5] | | <10 | <10 | 2 | 0 | ND | 0 |
| Phorate | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Ronnel | µg/L | 0.1[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Stirophos | µg/L | 2.8[#5] | | <10 | <10 | 2 | 0 | ND | 0 |
| Trichlorinate | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 1 | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71001 | R71002 | | | | |
| | | | Date | 10/07/2019 | 04/07/2019 | | | | |
| | | | Sample Type | Normal | Normal | | | | |
| | | | Lab Report Number | 19-13307 | 19-13379 | | | | |
| Chlopyrifos | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Metals | | | | | | | | | |
| Antimony (Filtered) | µg/L | 5 #2 | | 0.67 | 0.3 | 2 | 2 | 0.67 | 0 |
| Arsenic (Filtered) | µg/L | 10 #2 | | 0.55 | 0.16 | 2 | 2 | 0.55 | 0 |
| Beryllium (Filtered) | µg/L | 12 #3 | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| Boron (Filtered) | µg/L | 1,000 #2 | | 89 | 46 | 2 | 2 | 89 | 0 |
| Cadmium (Filtered) | µg/L | 5 #2 | | 0.02 | <0.02 | 2 | 1 | 0.02 | 0 |
| Calcium (Filtered) | mg/L | | | 100 | 88 | 2 | 2 | 100 | 0 |
| Chromium (III+VI) (Filtered) | µg/L | 50 #2 | | 0.34 | 0.41 | 2 | 2 | 0.41 | 0 |
| Copper (Filtered) | µg/L | 2,000 #2 | | 3.2 | 0.8 | 2 | 2 | 3.2 | 0 |
| Iron (Filtered) | µg/L | 200 #2 | | 110 | 9.1 | 2 | 2 | 110 | 0 |
| Lead (Filtered) | µg/L | 10 #2 | | 0.29 | <0.09 | 2 | 1 | 0.29 | 0 |
| Magnesium (Filtered) | mg/L | | | 3 | 2.8 | 2 | 2 | 3 | 0 |
| Manganese (Filtered) | µg/L | 50 #2 | | 30 | 28 | 2 | 2 | 30 | 0 |
| Mercury (Filtered) | µg/L | 1 #2 | | 0.07 | 0.16 | 2 | 2 | 0.16 | 0 |
| Molybdenum (Filtered) | µg/L | 70 #3 | | 8.4 | 1.2 | 2 | 2 | 8.4 | 0 |
| Nickel (Filtered) | µg/L | 20 #2 | | 6.6 | 4.2 | 2 | 2 | 6.6 | 0 |
| Phosphorus (Filtered) | µg/L | 0.4 #5 | | **40** | **37** | 2 | 2 | 40 | 2 |
| Selenium (Filtered) | µg/L | 10 #2 | | 3 | 0.34 | 2 | 2 | 3 | 0 |
| Sodium (Filtered) | mg/L | 200 #2 | | 7.1 | 11 | 2 | 2 | 11 | 0 |
| Zinc (Filtered) | µg/L | 6,000 #5 | | 7.6 | 19 | 2 | 2 | 19 | 0 |
| Potassium (Filtered) | mg/L | | | 1.1 | 1.4 | 2 | 2 | 1.4 | 0 |
| Chromium (hexavalent) | µg/L | Use Chromium (total) #2 | | <7 | <7 | 2 | 0 | ND | 0 |
| Chromium (Trivalent) (Filtered) | µg/L | Use Chromium (total) #2 | | <1 | <1 | 2 | 0 | ND | 0 |
| Inorganics | | | | | | | | | |
| Sulphate, Total Potential as SO4 | µg/l | | | 19,000 | 21,000 | 2 | 2 | 21000 | 0 |
| Cyanide (Free) | mg/L | Use Cyanide Total #2 | | 0.0002 | <0.0001 | 2 | 1 | 0.0002 | 0 |
| Cyanide, Total Low Level | ug/l | 50 #2 | | 0.6 | <0.1 | 2 | 1 | 0.6 | 0 |
| Fluoride | mg/L | 1.5 #2 | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| Chloride | mg/L | 250 #2 | | 33 | 21 | 2 | 2 | 33 | 0 |
| Nitrate (as NO3-) | mg/L | 50 #2 | | **61** | **50** | 2 | 2 | 61 | 2 |
| Nitrite (as NO2-) | mg/L | 0.5 #2 | | <0.1 | 0.19 | 2 | 1 | 0.19 | 0 |
| Ortho Phosphate as PO4 | mg/L | | | 0.03 | <0.01 | 2 | 1 | 0.03 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | 200 | 160 | 2 | 2 | 200 | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | 70 | <10 | 2 | 1 | 70 | 0 |
| Reactive Phosphorus as P | mg/L | | | <0.03 | <0.03 | 2 | 0 | ND | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 110 | 170 | 2 | 2 | 170 | 0 |
| Ammoniacal Nitrogen as N | mg/L | | | 0.21 | <0.015 | 2 | 1 | 0.21 | 0 |
| TDS | mg/L | | | 3,600 | 380 | 2 | 2 | 3600 | 0 |
| Other | | | | | | | | | |
| Electrical conductivity *(lab) | µS/cm | | | 540 | 470 | 2 | 2 | 540 | 0 |
| Dissolved Organic Carbon | mg/L | | | <2 | <2 | 2 | 0 | ND | 0 |
| Field | | | | | | | | | |
| pH | pH_Units | | | 7.3 | 7.8 | 2 | 2 | 7.8 | 0 |
| Dissolved Oxygen | mg/L | | | 9 | 8.7 | 2 | 2 | 9 | 0 |
| Turbidity | NTU | | | 170 | 520 | 2 | 2 | 520 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:WHO DWG 2017
#4:AECOM DWG (WHO method)
#5:USEPA RSL (tapwater) [May 2020]
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 1 | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71001 | R71002 | | | | |
| | | | Date | 10/07/2019 | 04/07/2019 | | | | |
| | | | Sample Type | Normal | Normal | | | | |
| | | | Lab Report Number | 19-13307 | 19-13379 | | | | |
| **TPH** | | | | | | | | | |
| >C5-C6 Aliphatics | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | | | <2 | <2 | 2 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C5-C35 Aliphatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| >C6-C7 Aromatics | µg/L | 10[#1] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C7-C8 Aromatics | µg/L | 74[#2] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C8 -C10 Aromatics | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C5-C35 Aromatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| VOC | | | | | | | | | |
| Benzene | µg/L | 10[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| Toluene | µg/L | 74[#2] | | <1 | <1 | 2 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 20[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| Xylene Total | µg/L | 30[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| PAH | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | | 0.16 | <0.05 | 2 | 1 | 0.16 | 0 |
| Acenaphthylene | µg/L | | | 0.05 | <0.01 | 2 | 1 | 0.05 | 0 |
| Acenaphthene | µg/L | | | 0.07 | <0.01 | 2 | 1 | 0.07 | 0 |
| Fluorene | µg/L | | | 0.1 | 0.01 | 2 | 2 | 0.1 | 0 |
| Phenanthrene | µg/L | | | 0.2 | <0.01 | 2 | 1 | 0.2 | 0 |
| Anthracene | µg/L | 0.1[#1] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Fluoranthene | µg/L | 0.0063[#1] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Pyrene | µg/L | | | 0.03 | 0.03 | 2 | 2 | 0.03 | 0 |
| Benz(a)anthracene | µg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chrysene | µg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#4] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#5] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | 0.017[#5] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | 0.017[#5] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| PAHs (Sum of total) | µg/L | | | 0.63 | <0.2 | 2 | 1 | 0.63 | 0 |
| PAHs (sum of 4) | µg/L | | | <0.04 | <0.04 | 2 | 0 | ND | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| SVOC | | | | | | | | | |
| Phenol | µg/L | 7.7[#2] | | 6.2 | <1.5 | 2 | 1 | 6.2 | 0 |
| PCBs | | | | | | | | | |
| PCB 118+123 | µg/L | | | <0.6 | <0.6 | 2 | 0 | ND | 0 |
| PCB congener 28 + 31 | µg/L | | | <0.3 | <0.3 | 2 | 0 | ND | 0 |
| PCB 52 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 101 | µg/L | | | <0.3 | <0.3 | 2 | 0 | ND | 0 |
| PCB 138 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 153 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 180 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| Total PCB 7 Congeners | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| Herbicides and Pesticides | | | | | | | | | |
| Bolstar | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Tokuthion | mg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Azinophos methyl | µg/L | 0.01[#3] | | <10 | <10 | 2 | 0 | ND | 0 |
| Diazinon | µg/L | 0.01[#2] | | <10 | <10 | 2 | 0 | ND | 0 |
| Dichlorvos | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Fenthion | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Methyl parathion | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | µg/L | 0.02[#6] | | <10 | <10 | 2 | 0 | ND | 0 |
| Coumaphos | µg/L | 0.03[#3] | | <10 | <10 | 2 | 0 | ND | 0 |
| Demeton-O | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Demeton-S | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Disulfoton | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Ethoprop | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Fensulfothion | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Merphos | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Naled (Dibrom) | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Phorate | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Ronnel | µg/L | 0.03[#3] | | <10 | <10 | 2 | 0 | ND | 0 |
| Stirophos | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Trichlorinate | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 1 | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R71001 | R71002 | | | | |
| | | | Date | 10/07/2019 | 04/07/2019 | | | | |
| | | | Sample Type | Normal | Normal | | | | |
| | | | Lab Report Number | 19-13307 | 19-13379 | | | | |
| Chlopyrifos | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Metals | | | | | | | | | |
| Antimony (Filtered) | µg/L | | | 0.67 | 0.3 | 2 | 2 | 0.67 | 0 |
| Arsenic (Filtered) | µg/L | 50[#2] | | 0.55 | 0.16 | 2 | 2 | 0.55 | 0 |
| Beryllium (Filtered) | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| Boron (Filtered) | µg/L | 2,000[#3] | | 89 | 46 | 2 | 2 | 89 | 0 |
| Cadmium (Filtered) | µg/L | 0.08[#1] | | 0.02 | <0.02 | 2 | 1 | 0.02 | 0 |
| Calcium (Filtered) | mg/L | | | 100 | 88 | 2 | 2 | 100 | 0 |
| Chromium (III+VI) (Filtered) | µg/L | | | 0.34 | 0.41 | 2 | 2 | 0.41 | 0 |
| Copper (Filtered) | µg/L | 1[#2] | | **3.2** | 0.8 | 2 | 2 | 3.2 | 1 |
| Iron (Filtered) | µg/L | 1,000[#2] | | 110 | 9.1 | 2 | 2 | 110 | 0 |
| Lead (Filtered) | µg/L | 1.2[#1] | | 0.29 | <0.09 | 2 | 1 | 0.29 | 0 |
| Magnesium (Filtered) | mg/L | | | 3 | 2.8 | 2 | 2 | 3 | 0 |
| Manganese (Filtered) | µg/L | 123[#2] | | 30 | 28 | 2 | 2 | 30 | 0 |
| Mercury (Filtered) | µg/L | 0.07[#5] | | 0.07 | 0.16 | 2 | 2 | 0.16 | 0 |
| Molybdenum (Filtered) | µg/L | | | 8.4 | 1.2 | 2 | 2 | 8.4 | 0 |
| Nickel (Filtered) | µg/L | 4[#1] | | **6.6** | **4.2** | 2 | 2 | 6.6 | 2 |
| Phosphorus (Filtered) | µg/L | See source document[#1] | | 40 | 37 | 2 | 2 | 40 | 0 |
| Selenium (Filtered) | µg/L | | | 3 | 0.34 | 2 | 2 | 3 | 0 |
| Sodium (Filtered) | mg/L | | | 7.1 | 11 | 2 | 2 | 11 | 0 |
| Zinc (Filtered) | µg/L | 10.9[#2] | | 7.6 | **19** | 2 | 2 | 19 | 1 |
| Potassium (Filtered) | mg/L | | | 1.1 | 1.4 | 2 | 2 | 1.4 | 0 |
| Chromium (hexavalent) | µg/L | 3.4[#2] | | <7 | <7 | 2 | 0 | ND | 0 |
| Chromium (Trivalent) (Filtered) | µg/L | 4.7[#2] | | <1 | <1 | 2 | 0 | ND | 0 |
| Inorganics | | | | | | | | | |
| Sulphate, Total Potential as SO4 | µg/l | | | 19,000 | 21,000 | 2 | 2 | 21000 | 0 |
| Cyanide (Free) | mg/L | 0.001[#3] | | 0.0002 | <0.0001 | 2 | 1 | 0.0002 | 0 |
| Cyanide, Total Low Level | ug/l | 1[#3] | | 0.6 | <0.1 | 2 | 1 | 0.6 | 0 |
| Fluoride | mg/L | 1[#3] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| Chloride | mg/L | 250[#3] | | 33 | 21 | 2 | 2 | 33 | 0 |
| Nitrate (as NO3-) | mg/L | | | 61 | 50 | 2 | 2 | 61 | 0 |
| Nitrite (as NO2-) | mg/L | | | <0.1 | 0.19 | 2 | 1 | 0.19 | 0 |
| Ortho Phosphate as PO4 | mg/L | | | 0.03 | <0.01 | 2 | 1 | 0.03 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | 200 | 160 | 2 | 2 | 200 | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | 70 | <10 | 2 | 1 | 70 | 0 |
| Reactive Phosphorus as P | mg/L | | | <0.03 | <0.03 | 2 | 0 | ND | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 110 | 170 | 2 | 2 | 170 | 0 |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | | 0.21 | <0.015 | 2 | 1 | 0.21 | 0 |
| TDS | mg/L | | | 3,600 | 380 | 2 | 2 | 3600 | 0 |
| Other | | | | | | | | | |
| Electrical conductivity *(lab) | µS/cm | | | 540 | 470 | 2 | 2 | 540 | 0 |
| Dissolved Organic Carbon | mg/L | | | <2 | <2 | 2 | 0 | ND | 0 |
| Field | | | | | | | | | |
| pH | pH_Units | | | 7.3 | 7.8 | 2 | 2 | 7.8 | 0 |
| Dissolved Oxygen | mg/L | | | 9 | 8.7 | 2 | 2 | 9 | 0 |
| Turbidity | NTU | | | 170 | 520 | 2 | 2 | 520 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#4:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#5:WFD England/Wales. 2015 - MAC-EQS Inland
#6:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
XXX Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Groundwater (DWS) | **Monitoring Zone** | Area 2 | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | **Location** | CP71302 | R71301 | | | | |
| | | | **Date** | 01/07/2019 | 02/07/2019 | | | | |
| | | | **Sample Type** | Normal | Normal | | | | |
| | | | **Lab Report Number** | 19-12734 | 19-12734 | | | | |
| **TPH** | | | | | | | | | |
| >C5-C6 Aliphatics | µg/L | **15,000**[#1] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | **15,000**[#1] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | **300**[#1] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | **300**[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | **300**[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | **300**[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | **300**[#1] | | <2 | <2 | 2 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | **300**[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C5-C35 Aliphatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| >C6-C7 Aromatics | µg/L | **1**[#2] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C7-C8 Aromatics | µg/L | **700**[#3] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C8 -C10 Aromatics | µg/L | **300**[#3] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | **90**[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | **90**[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | **90**[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | **90**[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| >C5-C35 Aromatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| VOC | | | | | | | | | |
| Benzene | µg/L | **1**[#2] | | <1 | <1 | 2 | 0 | ND | 0 |
| Toluene | µg/L | **700**[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| Ethylbenzene | µg/L | **300**[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| Xylene Total | µg/L | **500**[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| PAH | | | | | | | | | |
| Naphthalene | µg/L | **6**[#4] | | **9** | 0.13 | 2 | 2 | 9 | 1 |
| Acenaphthylene | µg/L | **18**[#4] | | 0.2 | <0.01 | 2 | 1 | 0.2 | 0 |
| Acenaphthene | µg/L | **18**[#4] | | 5 | 0.02 | 2 | 2 | 5 | 0 |
| Fluorene | µg/L | **12**[#4] | | 11 | 0.04 | 2 | 2 | 11 | 0 |
| Phenanthrene | µg/L | **4**[#4] | | **7** | 0.03 | 2 | 2 | 7 | 1 |
| Anthracene | µg/L | **90**[#4] | | 3.4 | <0.01 | 2 | 1 | 3.4 | 0 |
| Fluoranthene | µg/L | **4**[#3] | | 0.96 | <0.01 | 2 | 1 | 0.96 | 0 |
| Pyrene | µg/L | **9**[#4] | | 0.7 | <0.01 | 2 | 1 | 0.7 | 0 |
| Benz(a)anthracene | µg/L | **3.5**[#4] | | 0.04 | <0.01 | 2 | 1 | 0.04 | 0 |
| Chrysene | µg/L | **7**[#4] | | 0.05 | <0.01 | 2 | 1 | 0.05 | 0 |
| Benzo(a) pyrene | µg/L | **0.01**[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | **Use PAHs (sum of 4)**[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | **0.07**[#4] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | **Use PAHs (sum of 4)**[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | **Use PAHs (sum of 4)**[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | **Use PAHs (sum of 4)**[#2] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| PAHs (Sum of total) | µg/L | | | 37 | 0.23 | 2 | 2 | 37 | 0 |
| PAHs (sum of 4) | µg/L | **0.1**[#2] | | <0.04 | <0.04 | 2 | 0 | ND | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| SVOC | | | | | | | | | |
| Phenol | µg/L | **5,800**[#5] | | 6.3 | <1.5 | 2 | 1 | 6.3 | 0 |
| PCBs | | | | | | | | | |
| PCB 118+123 | µg/L | | | <0.6 | <0.6 | 2 | 0 | ND | 0 |
| PCB congener 28 + 31 | µg/L | | | <0.3 | <0.3 | 2 | 0 | ND | 0 |
| PCB 52 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 101 | µg/L | | | <0.3 | <0.3 | 2 | 0 | ND | 0 |
| PCB 138 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 153 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 180 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| Total PCB 7 Congeners | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| Herbicides and Pesticides | | | | | | | | | |
| Bolstar | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Tokuthion | mg/L | | | <0.002 | <0.001 | 2 | 0 | ND | 0 |
| Azinophos methyl | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Diazinon | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Dichlorvos | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Fenthion | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Methyl parathion | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Coumaphos | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Demeton-O | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Demeton-S | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Disulfoton | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Ethoprop | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Fensulfothion | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Merphos | µg/L | **0.6**[#5] | | <2 | <1 | 2 | 0 | ND | 0 |
| Naled (Dibrom) | µg/L | **40**[#5] | | <2 | <1 | 2 | 0 | ND | 0 |
| Phorate | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Ronnel | µg/L | **0.1**[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Stirophos | µg/L | **2.8**[#5] | | <2 | <1 | 2 | 0 | ND | 0 |
| Trichlorinate | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 2 | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP71302 | R71301 | | | | |
| | | | Date | 01/07/2019 | 02/07/2019 | | | | |
| | | | Sample Type | Normal | Normal | | | | |
| | | | Lab Report Number | 19-12734 | 19-12734 | | | | |
| Chlopyrifos | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Metals | | | | | | | | | |
| Antimony (Filtered) | µg/L | 5 #2 | | 0.38 | 0.22 | 2 | 2 | 0.38 | 0 |
| Arsenic (Filtered) | µg/L | 10 #2 | | 2.4 | 1.6 | 2 | 2 | 2.4 | 0 |
| Beryllium (Filtered) | µg/L | 12 #3 | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| Boron (Filtered) | µg/L | 1,000 #2 | | 24 | 23 | 2 | 2 | 24 | 0 |
| Cadmium (Filtered) | µg/L | 5 #2 | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Calcium (Filtered) | mg/L | | | 76 | 93 | 2 | 2 | 93 | 0 |
| Chromium (III+VI) (Filtered) | µg/L | 50 #2 | | 0.39 | 4.1 | 2 | 2 | 4.1 | 0 |
| Copper (Filtered) | µg/L | 2,000 #2 | | 3.1 | 1.1 | 2 | 2 | 3.1 | 0 |
| Iron (Filtered) | µg/L | 200 #2 | | 28 | <5.5 | 2 | 1 | 28 | 0 |
| Lead (Filtered) | µg/L | 10 #2 | | 0.12 | 0.14 | 2 | 2 | 0.14 | 0 |
| Magnesium (Filtered) | mg/L | | | 2.3 | 1.9 | 2 | 2 | 2.3 | 0 |
| Manganese (Filtered) | µg/L | 50 #2 | | 18 | 39 | 2 | 2 | 39 | 0 |
| Mercury (Filtered) | µg/L | 1 #2 | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Molybdenum (Filtered) | µg/L | 70 #3 | | 17 | 3.2 | 2 | 2 | 17 | 0 |
| Nickel (Filtered) | µg/L | 20 #2 | | 4.2 | 16 | 2 | 2 | 16 | 0 |
| Phosphorus (Filtered) | µg/L | 0.4 #5 | | **80** | **63** | 2 | 2 | 80 | 2 |
| Selenium (Filtered) | µg/L | 10 #2 | | 0.89 | <0.25 | 2 | 1 | 0.89 | 0 |
| Sodium (Filtered) | mg/L | 200 #2 | | 11 | 11 | 2 | 2 | 11 | 0 |
| Zinc (Filtered) | µg/L | 6,000 #5 | | 36 | 24 | 2 | 2 | 36 | 0 |
| Potassium (Filtered) | mg/L | | | 2.4 | 1.1 | 2 | 2 | 2.4 | 0 |
| Chromium (hexavalent) | µg/L | Use Chromium (total) #2 | | <7 | <7 | 2 | 0 | ND | 0 |
| Chromium (Trivalent) (Filtered) | µg/L | Use Chromium (total) #2 | | <1 | 3.8 | 2 | 1 | 3.8 | 0 |
| Inorganics | | | | | | | | | |
| Sulphate, Total Potential as SO4 | µg/l | | | 45,000 | 23,000 | 2 | 2 | 45000 | 0 |
| Cyanide (Free) | mg/L | Use Cyanide Total #2 | | 0.0005 | <0.0001 | 2 | 1 | 0.0005 | 0 |
| Cyanide, Total Low Level | ug/l | 50 #2 | | 4.4 | 0.4 | 2 | 2 | 4.4 | 0 |
| Fluoride | mg/L | 1.5 #2 | | 0.15 | <0.1 | 2 | 1 | 0.15 | 0 |
| Chloride | mg/L | 250 #2 | | 32 | 27 | 2 | 2 | 32 | 0 |
| Nitrate (as NO3-) | mg/L | 50 #2 | | 26 | 48 | 2 | 2 | 48 | 0 |
| Nitrite (as NO2-) | mg/L | 0.5 #2 | | **8.9** | <0.1 | 2 | 1 | 8.9 | 1 |
| Ortho Phosphate as PO4 | mg/L | | | <0.01 | 3.3 | 2 | 1 | 3.3 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | 140 | 160 | 2 | 2 | 160 | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Reactive Phosphorus as P | mg/L | | | <0.03 | <0.03 | 2 | 0 | ND | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 760 | 150 | 2 | 2 | 760 | 0 |
| Ammoniacal Nitrogen as N | mg/L | | | 1.4 | 1.3 | 2 | 2 | 1.4 | 0 |
| TDS | mg/L | | | 300 | 380 | 2 | 2 | 380 | 0 |
| Other | | | | | | | | | |
| Electrical conductivity *(lab) | µS/cm | | | 317 | 498 | 2 | 2 | 498 | 0 |
| Dissolved Organic Carbon | mg/L | | | 4.5 | <2 | 2 | 1 | 4.5 | 0 |
| Field | | | | | | | | | |
| pH | pH_Units | | | 7.5 | 6.7 | 2 | 2 | 7.5 | 0 |
| Dissolved Oxygen | mg/L | | | 8.7 | 9 | 2 | 2 | 9 | 0 |
| Turbidity | NTU | | | <1 | 23 | 2 | 1 | 23 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:WHO DWG 2017
#4:AECOM DWG (WHO method)
#5:USEPA RSL (tapwater) [May 2020]
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 2 | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP71302 | R71301 | | | | |
| | | | Date | 01/07/2019 | 02/07/2019 | | | | |
| | | | Sample Type | Normal | Normal | | | | |
| | | | Lab Report Number | 19-12734 | 19-12734 | | | | |
| **TPH** | | | | | | | | | |
| >C5-C6 Aliphatics | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | | | <2 | <2 | 2 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C5-C35 Aliphatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| >C6-C7 Aromatics | µg/L | 10[#1] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C7-C8 Aromatics | µg/L | 74[#2] | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >C8 -C10 Aromatics | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| >C5-C35 Aromatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| VOC | | | | | | | | | |
| Benzene | µg/L | 10[#1] | | <1 | <1 | 2 | 0 | ND | 0 |
| Toluene | µg/L | 74[#2] | | <1 | <1 | 2 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 20[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| Xylene Total | µg/L | 30[#3] | | <1 | <1 | 2 | 0 | ND | 0 |
| PAH | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | | 9 | 0.13 | 2 | 2 | 9 | 1 |
| Acenaphthylene | µg/L | | | 0.2 | <0.01 | 2 | 1 | 0.2 | 0 |
| Acenaphthene | µg/L | | | 5 | 0.02 | 2 | 2 | 5 | 0 |
| Fluorene | µg/L | | | 11 | 0.04 | 2 | 2 | 11 | 0 |
| Phenanthrene | µg/L | | | 7 | 0.03 | 2 | 2 | 7 | 0 |
| Anthracene | µg/L | 0.1[#1] | | 3.4 | <0.01 | 2 | 1 | 3.4 | 1 |
| Fluoranthene | µg/L | 0.0063[#1] | | 0.96 | <0.01 | 2 | 1 | 0.96 | 1 |
| Pyrene | µg/L | | | 0.7 | <0.01 | 2 | 1 | 0.7 | 0 |
| Benz(a)anthracene | µg/L | | | 0.04 | <0.01 | 2 | 1 | 0.04 | 0 |
| Chrysene | µg/L | | | 0.05 | <0.01 | 2 | 1 | 0.05 | 0 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#4] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#5] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | 0.017[#5] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(k)fluoranthene | µg/L | 0.017[#5] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| PAHs (Sum of total) | µg/L | | | 37 | 0.23 | 2 | 2 | 37 | 0 |
| PAHs (sum of 4) | µg/L | | | <0.04 | <0.04 | 2 | 0 | ND | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| SVOC | | | | | | | | | |
| Phenol | µg/L | 7.7[#2] | | 6.3 | <1.5 | 2 | 1 | 6.3 | 0 |
| PCBs | | | | | | | | | |
| PCB 118+123 | µg/L | | | <0.6 | <0.6 | 2 | 0 | ND | 0 |
| PCB congener 28 + 31 | µg/L | | | <0.3 | <0.3 | 2 | 0 | ND | 0 |
| PCB 52 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 101 | µg/L | | | <0.3 | <0.3 | 2 | 0 | ND | 0 |
| PCB 138 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 153 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| PCB 180 | µg/L | | | <0.2 | <0.2 | 2 | 0 | ND | 0 |
| Total PCB 7 Congeners | µg/L | | | <1 | <1 | 2 | 0 | ND | 0 |
| Herbicides and Pesticides | | | | | | | | | |
| Bolstar | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Tokuthion | mg/L | | | <0.002 | <0.001 | 2 | 0 | ND | 0 |
| Azinophos methyl | µg/L | 0.01[#3] | | <2 | <1 | 2 | 0 | ND | 0 |
| Diazinon | µg/L | 0.01[#2] | | <2 | <1 | 2 | 0 | ND | 0 |
| Dichlorvos | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Fenthion | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Methyl parathion | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | µg/L | 0.02[#6] | | <2 | <1 | 2 | 0 | ND | 0 |
| Coumaphos | µg/L | 0.03[#3] | | <2 | <1 | 2 | 0 | ND | 0 |
| Demeton-O | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Demeton-S | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Disulfoton | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Ethoprop | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Fensulfothion | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Merphos | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Naled (Dibrom) | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Phorate | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Ronnel | µg/L | 0.03[#3] | | <2 | <1 | 2 | 0 | ND | 0 |
| Stirophos | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Trichlorinate | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 2 | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP71302 | R71301 | | | | |
| | | | Date | 01/07/2019 | 02/07/2019 | | | | |
| | | | Sample Type | Normal | Normal | | | | |
| | | | Lab Report Number | 19-12734 | 19-12734 | | | | |
| Chlopyrifos | µg/L | | | <2 | <1 | 2 | 0 | ND | 0 |
| Metals | | | | | | | | | |
| Antimony (Filtered) | µg/L | | | 0.38 | 0.22 | 2 | 2 | 0.38 | 0 |
| Arsenic (Filtered) | µg/L | 50 [#2] | | 2.4 | 1.6 | 2 | 2 | 2.4 | 0 |
| Beryllium (Filtered) | µg/L | | | <0.1 | <0.1 | 2 | 0 | ND | 0 |
| Boron (Filtered) | µg/L | 2,000 [#3] | | 24 | 23 | 2 | 2 | 24 | 0 |
| Cadmium (Filtered) | µg/L | 0.08 [#1] | | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Calcium (Filtered) | mg/L | | | 76 | 93 | 2 | 2 | 93 | 0 |
| Chromium (III+VI) (Filtered) | µg/L | | | 0.39 | 4.1 | 2 | 2 | 4.1 | 0 |
| Copper (Filtered) | µg/L | 1 [#2] | | **3.1** | **1.1** | 2 | 2 | 3.1 | 2 |
| Iron (Filtered) | µg/L | 1,000 [#2] | | 28 | <5.5 | 2 | 1 | 28 | 0 |
| Lead (Filtered) | µg/L | 1.2 [#1] | | 0.12 | 0.14 | 2 | 2 | 0.14 | 0 |
| Magnesium (Filtered) | mg/L | | | 2.3 | 1.9 | 2 | 2 | 2.3 | 0 |
| Manganese (Filtered) | µg/L | 123 [#2] | | 18 | 39 | 2 | 2 | 39 | 0 |
| Mercury (Filtered) | µg/L | 0.07 [#5] | | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Molybdenum (Filtered) | µg/L | | | 17 | 3.2 | 2 | 2 | 17 | 0 |
| Nickel (Filtered) | µg/L | 4 [#1] | | **4.2** | **16** | 2 | 2 | 16 | 2 |
| Phosphorus (Filtered) | µg/L | See source document [#1] | | 80 | 63 | 2 | 2 | 80 | 0 |
| Selenium (Filtered) | µg/L | | | 0.89 | <0.25 | 2 | 1 | 0.89 | 0 |
| Sodium (Filtered) | mg/L | | | 11 | 11 | 2 | 2 | 11 | 0 |
| Zinc (Filtered) | µg/L | 10.9 [#2] | | **36** | **24** | 2 | 2 | 36 | 2 |
| Potassium (Filtered) | mg/L | | | 2.4 | 1.1 | 2 | 2 | 2.4 | 0 |
| Chromium (hexavalent) | µg/L | 3.4 [#2] | | <7 | <7 | 2 | 0 | ND | 0 |
| Chromium (Trivalent) (Filtered) | µg/L | 4.7 [#2] | | <1 | 3.8 | 2 | 1 | 3.8 | 0 |
| Inorganics | | | | | | | | | |
| Sulphate, Total Potential as SO4 | µg/l | | | 45,000 | 23,000 | 2 | 2 | 45000 | 0 |
| Cyanide (Free) | mg/L | 0.001 [#3] | | 0.0005 | <0.0001 | 2 | 1 | 0.0005 | 0 |
| Cyanide, Total Low Level | ug/l | 1 [#3] | | 4.4 | 0.4 | 2 | 2 | 4.4 | 0 |
| Fluoride | mg/L | 1 [#3] | | 0.15 | <0.1 | 2 | 1 | 0.15 | 0 |
| Chloride | mg/L | 250 [#3] | | 32 | 27 | 2 | 2 | 32 | 0 |
| Nitrate (as NO3-) | mg/L | | | 26 | 48 | 2 | 2 | 48 | 0 |
| Nitrite (as NO2-) | mg/L | | | 8.9 | <0.1 | 2 | 1 | 8.9 | 0 |
| Ortho Phosphate as PO4 | mg/L | | | <0.01 | 3.3 | 2 | 1 | 3.3 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | 140 | 160 | 2 | 2 | 160 | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | <10 | <10 | 2 | 0 | ND | 0 |
| Reactive Phosphorus as P | mg/L | | | <0.03 | <0.03 | 2 | 0 | ND | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 760 | 150 | 2 | 2 | 760 | 0 |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen) [#2] | | 1.4 | 1.3 | 2 | 2 | 1.4 | 0 |
| TDS | mg/L | | | 300 | 380 | 2 | 2 | 380 | 0 |
| Other | | | | | | | | | |
| Electrical conductivity *(lab) | µS/cm | | | 317 | 498 | 2 | 2 | 498 | 0 |
| Dissolved Organic Carbon | mg/L | | | 4.5 | <2 | 2 | 1 | 4.5 | 0 |
| Field | | | | | | | | | |
| pH | pH_Units | | | 7.5 | 6.7 | 2 | 2 | 7.5 | 0 |
| Dissolved Oxygen | mg/L | | | 8.7 | 9 | 2 | 2 | 9 | 0 |
| Turbidity | NTU | | | <1 | 23 | 2 | 1 | 23 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#4:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#5:WFD England/Wales. 2015 - MAC-EQS Inland
#6:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
**XXX** Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 3 | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| **TPH** | | | | | | | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | - | - | - | - | - | - | - | - | - | <50 | <50 | 2 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | 15,000[#1] | | - | - | <1 | - | - | <1 | <0.1 | <0.1 | <0.1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | 15,000[#1] | | - | - | <1 | - | - | <1 | <0.1 | <0.1 | <0.1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | 300[#1] | | - | - | <1 | - | - | <1 | <0.1 | <0.1 | <0.1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | 300[#1] | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | 300[#1] | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | 300[#1] | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | 300[#1] | | - | - | <10 | - | - | <10 | <2 | <2 | <2 | <10 | <10 | 7 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | 300[#1] | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C5-C35 Aliphatics | µg/L | | | - | - | - | - | - | - | <10 | <10 | <10 | - | - | 3 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | | - | - | - | - | - | - | - | - | - | <10 | <10 | 2 | 0 | ND | 0 |
| >C6-C7 Aromatics | µg/L | 1[#2] | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| >C7-C8 Aromatics | µg/L | 700[#1] | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| >C8 -C10 Aromatics | µg/L | 300[#1] | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 1[#2] | | - | - | <1 | - | - | <1 | - | - | - | <10 | <10 | 4 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 700[#1] | | - | - | <1 | - | - | <1 | - | - | - | <10 | <10 | 4 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | 300[#1] | | - | - | - | - | - | - | - | - | - | <10 | <10 | 2 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | 300[#1] | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | 300[#1] | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | 90[#1] | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | 90[#1] | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | 90[#1] | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | 90[#1] | | - | - | - | - | - | - | <1 | <1 | <1 | <10 | <10 | 5 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | 90[#1] | | - | - | - | - | - | - | - | - | - | <10 | <10 | 2 | 0 | ND | 0 |
| >C5-C35 Aromatics | µg/L | | | - | - | - | - | - | - | <10 | <10 | <10 | - | - | 3 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | - | - | - | - | - | - | <10 | <10 | <10 | <10 | <10 | 5 | 0 | ND | 0 |
| Gasoline Range Organics | µg/L | | | 100 | 100 | - | 100 | 100 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| Diesel Range Organics | µg/L | | | 100 | 100 | - | 100 | 100 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| Total Aliphatics | µg/L | | | - | - | <5 | - | - | <5 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | <5 | - | - | <5 | - | - | - | - | - | 2 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | <5 | - | - | <5 | - | - | - | - | - | 2 | 0 | ND | 0 |
| VOC | | | | | | | | | | | | | | | | | | |
| 1,3,5-Trichlorobenzene | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Dichlorodifluoromethane | µg/L | 200[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| MTBE | µg/L | 1,800[#4] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Chloromethane | µg/L | 190[#3] | | - | - | <10 | - | - | <10 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 0.5[#2] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Bromomethane | µg/L | 7.5[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Chloroethane | µg/L | 21,000[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | 5,200[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 140[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#5] | | - | - | <5 | - | - | <5 | - | - | - | <3 | <3 | 4 | 0 | ND | 0 |
| trans-1,2-dichloroethene | µg/L | Use '1,2 dichloroethene' criteria[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | 2.8[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | Use '1,2 dichloroethene' criteria[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Bromochloromethane | µg/L | 83[#3] | | - | - | <5 | - | - | <5 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Chloroform | µg/L | Use trihalomethanes[#2] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 2,000[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 3[#2] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 3[#2] | | - | - | <2 | - | - | <2 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Benzene | µg/L | 1[#2] | | - | - | <1 | - | - | <1 | <1 | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Trichloroethene | µg/L | Use PCE + TCE[#2] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | 40[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Dibromomethane | µg/L | 8.3[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | Use trihalomethanes[#2] | | - | - | <10 | - | - | <10 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Toluene | µg/L | 700[#5] | | - | - | <1 | - | - | <1 | <1 | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 0.28[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | Use PCE + TCE[#2] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | 370[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Sum of PCE and TCE | µg/L | 10[#2] | | - | - | <2 | - | - | <2 | - | - | - | <2 | <2 | 4 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | Use trihalomethanes[#2] | | - | - | <3 | - | - | <3 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dibromoethane | µg/L | 0.4[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Chlorobenzene | µg/L | 300[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | 0.57[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 300[#5] | | - | - | <1 | - | - | <1 | <1 | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Xylene Total | µg/L | 500[#5] | | - | - | <2 | - | - | <2 | <1 | <1 | <1 | <2 | <2 | 7 | 0 | ND | 0 |
| Xylene (o) | µg/L | 190[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Total BTEX | µg/L | | | - | - | - | - | - | - | - | - | - | <28 | <28 | 2 | 0 | ND | 0 |
| Styrene | µg/L | 20[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Bromoform | µg/L | Use trihalomethanes[#2] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | 450[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 0.076[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 3 | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| Bromobenzene | µg/L | 62[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | 0.00075[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| n-propylbenzene | µg/L | 660[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | 240[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | 60[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | 250[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | 690[#3] | | - | - | <2 | - | - | <2 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | 56[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| sec-butylbenzene | µg/L | 2,000[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| p-isopropyltoluene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | 300[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| n-butylbenzene | µg/L | 1,000[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | 1,000[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | 1[#5] | | - | - | <2 | - | - | <2 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | 0.1[#2] | | - | - | <3 | - | - | <3 | - | - | - | <0.01 | <0.01 | 4 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.1[#2] | | - | - | <1 | - | - | <1 | - | - | - | <0.01 | <0.01 | 4 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | 0.1[#2] | | - | - | <3 | - | - | <3 | - | - | - | <0.01 | <0.01 | 4 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | 50[#5] | | - | - | <2 | - | - | <2 | - | - | - | <2 | <2 | 4 | 0 | ND | 0 |
| Trihalomethanes | µg/L | 100[#2] | | - | - | <15 | - | - | <15 | - | - | - | <4 | <4 | 4 | 0 | ND | 0 |
| VOC TICs | µg/L | | | - | - | - | - | - | - | - | - | - | <10 | <10 | 2 | 0 | ND | 0 |
| Carbon disulfide | µg/L | 810[#3] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.1[#2] | | - | - | <1 | - | - | <1 | - | - | - | <0.01 | <0.01 | 4 | 0 | ND | 0 |
| Tert Amyl Methyl Ether | µg/L | | | - | - | - | - | - | - | - | - | - | <1 | <1 | 2 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.1[#2] | | - | - | <6 | - | - | <6 | - | - | - | <0.03 | <0.03 | 4 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | | | | |
| Naphthalene | µg/L | 6[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.05 | <0.05 | <0.05 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| Acenaphthylene | µg/L | 18[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Acenaphthene | µg/L | 18[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | 0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 1 | 0.01 | 0 |
| Fluorene | µg/L | 12[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Phenanthrene | µg/L | 4[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Anthracene | µg/L | 90[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Fluoranthene | µg/L | 4[#5] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | 0.04 | <0.01 | 0.01 | <8 - 0.00584 | <0.005 | 11 | 3 | 0.04 | 0 |
| Pyrene | µg/L | 9[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | 0.03 | <0.01 | 0.05 | <8 - 0.00686 | <0.005 | 11 | 3 | 0.05 | 0 |
| Benz(a)anthracene | µg/L | 3.5[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Chrysene | µg/L | 7[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Benzo(a) pyrene | µg/L | 0.01[#2] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <8 - 0.00598 | <0.002 | 11 | 1 | 0.00598 | 0 |
| Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | 0.07[#4] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <8 - 0.0107 | <0.005 | 11 | 1 | 0.0107 | 0 |
| Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <20 | <20 | <0.02 | <20 | <20 | <0.02 | <0.02 | <0.02 | <0.02 | 0.0157 | <0.01 | 11 | 1 | 0.0157 | 0 |
| PAHs (Sum of total) | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | - | - | 3 | 0 | ND | 0 |
| PAHs (sum of 4) | µg/L | 0.1[#2] | | <40 | <40 | <0.04 | <40 | <40 | <0.04 | <0.04 | <0.04 | <0.04 | 0.0257 | <0.02 | 11 | 1 | 0.0257 | 0 |
| PAH 16 Total | µg/L | | | - | - | <0.01 | - | - | <0.01 | - | - | - | <0.082 | <0.082 | 4 | 0 | ND | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <20 | <20 | <0.02 | <20 | <20 | <0.02 | <0.02 | <0.02 | <0.02 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | 0.00598 | <0.002 | 11 | 1 | 0.00598 | 0 |
| SVOC | | | | | | | | | | | | | | | | | | |
| Trimethylphenols | µg/L | | | 10 | 100 | - | 10 | 10 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| SVOC TICs | µg/L | | | - | - | - | - | - | - | - | - | - | <80 | <10 | 2 | 0 | ND | 0 |
| 2-chlorophenol | µg/L | 91[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2-methylphenol | µg/L | 930[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 46[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | 360[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | 1,200[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | 200[#5] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 1,400[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 4-methylphenol | µg/L | 1,900[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 9[#5] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Phenol | µg/L | 5,800[#3] | | <100 | <100 | <1 | <100 | <100 | <1 | <1.5 | <1.5 | <1.5 | <8 | <1 | 11 | 0 | ND | 0 |
| Phenol (Filtered) | µg/L | 5,800[#3] | | - | - | - | - | - | - | - | - | - | <2 | <2 | 2 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | 750[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | 36[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 8[#5] | | - | - | <10 | - | - | <10 | - | - | - | <16 | <2 | 4 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 16[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 900[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 200[#3] | | - | - | <10 | - | - | <10 | - | - | - | <40 | <5 | 4 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 15,000[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2-nitroaniline | µg/L | 190[#3] | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| 3-nitroaniline | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 4-chloroaniline | µg/L | 0.37[#3] | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| 4-chlorophenyl phenyl ether | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| 4-nitroaniline | µg/L | 3.8[#3] | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 3 | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| Azobenzene | µg/L | 0.12[#3] | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | 59[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | 0.014[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Carbazole | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Dibenzofuran | µg/L | 7.9[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | 0.41[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Hexachloroethane | µg/L | 0.33[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Isophorone | µg/L | 78[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | 0.011[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Cresol Total (Filtered) | µg/L | 1,500[#3] | | - | - | - | - | - | - | - | - | - | <6 | <6 | 2 | 0 | ND | 0 |
| Total Monohydric Phenols (S) Corrected (Filtered) | µg/L | | | - | - | - | - | - | - | - | - | - | <16 | <16 | 2 | 0 | ND | 0 |
| Xylenols (Filtered) | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <8 | 2 | 0 | ND | 0 |
| Dimethylphenethylamine | µg/L | | | 10 | 100 | - | 10 | 10 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| PCBs | | | | | | | | | | | | | | | | | | |
| PCB | µg/L | | | 50 | 5 | - | 0.5 | 0.5 | - | - | - | - | - | - | 4 | 4 | 50 | 0 |
| PCB 118+123 | µg/L | | | - | - | - | - | - | - | <0.6 | <0.6 | <0.6 | - | - | 3 | 0 | ND | 0 |
| PCB congener 28 + 31 | µg/L | | | - | - | - | - | - | - | <0.3 | <0.3 | <0.3 | - | - | 3 | 0 | ND | 0 |
| PCB 118 | µg/L | 0.004[#3] | | - | - | - | - | - | - | - | - | - | <0.015 | <0.015 | 2 | 0 | ND | 0 |
| PCB 28 | µg/L | | | - | - | - | - | - | - | - | - | - | <0.015 | <0.015 | 2 | 0 | ND | 0 |
| PCB 52 | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| PCB 101 | µg/L | | | - | - | - | - | - | - | <0.3 | <0.3 | <0.3 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| PCB 138 | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| PCB 153 | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| PCB 180 | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| Total PCB 7 Congeners | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | <0.105 | <0.105 | 5 | 0 | ND | 0 |
| Herbicides and Pesticides | | | | | | | | | | | | | | | | | | |
| Bolstar | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Permethrin I | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Tokuthion | mg/L | | | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | - | - | 3 | 0 | ND | 0 |
| Aldrin | µg/L | 0.03[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| a-BHC | µg/L | 0.0072[#3] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| b-BHC | µg/L | 0.025[#3] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlordane (cis) | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Dieldrin | µg/L | 0.03[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Endosulfan I | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Endosulfan II | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Endosulfan sulphate | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.04 | <0.06 | 2 | 0 | ND | 0 |
| Endrin | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| g-BHC (Lindane) | µg/L | 2[#5] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Heptachlor | µg/L | 0.03[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.02 | 2 | 0 | ND | 0 |
| Heptachlor epoxide | µg/L | 0.03[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Isodrin | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| o,p''-DDE | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| 2,4-DDT | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.04 | 2 | 0 | ND | 0 |
| o,p''-Methoxychlor | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.05 | 2 | 0 | ND | 0 |
| o,p-DDD | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| 4,4-DDE | µg/L | 0.046[#3] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| DDT | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.08 | 2 | 0 | ND | 0 |
| Methoxychlor | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.02 | <0.1 | 2 | 0 | ND | 0 |
| Pendimethalin | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Permethrin II | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Tecnazene | mg/L | 0.0001[#2] | | - | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | 2 | 0 | ND | 0 |
| Chlordane (trans) | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Triadimefon | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Triallate | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Trifluralin | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Aldrin + Dieldrin | µg/L | 0.03[#5] | | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| d-BHC | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Azinphos Ethyl | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Azinophos methyl | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.02 | <0.02 | 5 | 0 | ND | 0 |
| Carbophenothion | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlorfenvinphos | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlorpyrifos | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlorpyrifos-methyl | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Diazinon | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Dichlorvos | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Dimethoate | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Ethion | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Parathion | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Fenitrothion | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Fenthion | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Malathion | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Methyl parathion | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Phosalone | mg/L | 0.0001[#2] | | - | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | 2 | 0 | ND | 0 |
| Pirimiphos-methyl | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Propetamphos | mg/L | 0.0001[#2] | | - | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 3 | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| Triazophos | mg/L | 0.0001[#2] | | - | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | 2 | 0 | ND | 0 |
| Coumaphos | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Demeton-O | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Demeton-S | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Disulfoton | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Ethoprop | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Fensulfothion | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Merphos | µg/L | 0.6[#3] | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Naled (Dibrom) | µg/L | 40[#3] | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Phorate | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Ronnel | µg/L | 0.1[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Stirophos | µg/L | 2.8[#3] | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Demeton-S-methyl | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Aldrin+Dieldrin+Endrin+Isodrin | µg/L | | | - | - | - | - | - | - | - | - | - | <0.04 | <0.04 | 2 | 0 | ND | 0 |
| Trichlorinate | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Atrazine | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Simazine | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlopyrifos | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Dichlobenil | µg/L | 0.1[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| p,p-DDT | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | 0.24[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | 0.049[#3] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Nitrobenzene | µg/L | 8 to 63[#5] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | | | | |
| Antimony | µg/L | 5[#2] | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Antimony (Filtered) | µg/L | 5[#2] | | - | - | - | - | - | - | <0.17 | 0.23 | <0.17 | <1 | <1 | 5 | 1 | 0.23 | 0 |
| Arsenic | µg/L | 10[#2] | | 1 | 1 | <1 | 1 | 1 | <1 | - | - | - | - | - | 6 | 4 | 1 | 0 |
| Arsenic (Filtered) | µg/L | 10[#2] | | - | - | - | - | - | - | 1.6 | 1.7 | 2 | <0.5 | <0.5 | 5 | 3 | 2 | 0 |
| Beryllium | µg/L | 12[#5] | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Beryllium (Filtered) | µg/L | 12[#5] | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 5 | 0 | ND | 0 |
| Boron | µg/L | 1,000[#2] | | 50 | 50 | <10 | 50 | 50 | 10 | - | - | - | - | - | 6 | 5 | 50 | 0 |
| Boron (Filtered) | µg/L | 1,000[#2] | | - | - | - | - | - | - | <12 | 16 | 23 | <10 | 10.9 | 5 | 3 | 23 | 0 |
| Cadmium | µg/L | 5[#2] | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | - | - | - | - | - | 6 | 0 | ND | 0 |
| Cadmium (Filtered) | µg/L | 5[#2] | | - | - | - | - | - | - | <0.02 | <0.02 | <0.02 | <0.08 | <0.08 | 5 | 0 | ND | 0 |
| Calcium | mg/L | | | 141 | 103 | 87 | 1,110 | 122 | 82 | - | - | - | - | - | 6 | 6 | 1110 | 0 |
| Calcium (Filtered) | mg/L | | | - | - | - | - | - | - | 110 | 92 | 100 | 87 | 106 | 5 | 5 | 110 | 0 |
| Chromium (III+VI) | µg/L | 50[#2] | | 9 | 1 | 6 | 8 | 5 | 7 | - | - | - | - | - | 6 | 6 | 9 | 0 |
| Chromium (III+VI) (Filtered) | µg/L | 50[#2] | | - | - | - | - | - | - | 4.4 | 0.43 | 3.4 | <1 | <1 | 5 | 3 | 4.4 | 0 |
| Copper | µg/L | 2,000[#2] | | 11 | 20 | 3 | 7 | 16 | 2 | - | - | - | - | - | 6 | 6 | 20 | 0 |
| Copper (Filtered) | µg/L | 2,000[#2] | | - | - | - | - | - | - | 3 | 1.2 | 1.2 | 0.668 | 1.01 | 5 | 5 | 3 | 0 |
| Iron | µg/L | 200[#2] | | **530** | 100 | - | **3,630** | 70 | - | - | - | - | - | - | 4 | 4 | 3630 | 2 |
| Iron (Filtered) | µg/L | 200[#2] | | - | - | - | - | - | - | <5.5 | <5.5 | <5.5 | 22.8 | <19 | 5 | 1 | 22.8 | 0 |
| Lead | µg/L | 10[#2] | | **13** | 1 | <1 | 1 | 1 | <1 | - | - | - | - | - | 6 | 4 | 13 | 1 |
| Lead (Filtered) | µg/L | 10[#2] | | - | - | - | - | - | - | <0.09 | <0.09 | <0.09 | <0.2 | 0.216 | 5 | 1 | 0.216 | 0 |
| Magnesium | mg/L | | | 1.23 | 1.22 | 4 | 4.63 | 1.45 | 7 | - | - | - | - | - | 6 | 6 | 7 | 0 |
| Magnesium (Filtered) | mg/L | | | - | - | - | - | - | - | 1.2 | 1.2 | 3.3 | 0.919 | 1.88 | 5 | 5 | 3.3 | 0 |
| Manganese | µg/L | 50[#2] | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Manganese (Filtered) | µg/L | 50[#2] | | - | - | - | - | - | - | 10 | **110** | **50** | 3.05 | <3 | 5 | 4 | 110 | 2 |
| Mercury | µg/L | 1[#2] | | 0.1 | 1 | <0.1 | 0.1 | 0.1 | <0.1 | - | - | - | - | - | 6 | 4 | 1 | 0 |
| Mercury (Filtered) | µg/L | 1[#2] | | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Molybdenum | µg/L | 70[#5] | | - | - | <0.5 | - | - | <0.5 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Molybdenum (Filtered) | µg/L | 70[#5] | | - | - | - | - | - | - | <1.1 | 4.9 | <1.1 | <3 | 3.22 | 5 | 2 | 4.9 | 0 |
| Nickel | µg/L | 20[#2] | | 4 | 2 | <1 | 3 | 2 | <1 | - | - | - | - | - | 6 | 4 | 4 | 0 |
| Nickel (Filtered) | µg/L | 20[#2] | | - | - | - | - | - | - | 9.3 | 12 | 4.3 | 1.9 | 1.94 | 5 | 5 | 12 | 0 |
| Phosphorus (Filtered) | µg/L | 0.4[#3] | | - | - | - | - | - | - | **60** | **61** | **84** | <10 | <10 | 5 | 3 | 84 | 3 |
| Selenium | µg/L | 10[#2] | | 1 | 1 | <1 | 1 | 1 | <1 | - | - | - | - | - | 6 | 4 | 1 | 0 |
| Selenium (Filtered) | µg/L | 10[#2] | | - | - | - | - | - | - | 0.29 | <0.25 | 0.33 | <1 | <1 | 5 | 2 | 0.33 | 0 |
| Sodium | mg/L | 200[#2] | | 6.08 | 7.43 | 9 | 6.33 | 7.72 | 15 | - | - | - | - | - | 6 | 6 | 15 | 0 |
| Sodium (Filtered) | mg/L | 200[#2] | | - | - | - | - | - | - | 10 | 8.2 | 16 | 6.09 | 28.1 | 5 | 5 | 28.1 | 0 |
| Zinc | µg/L | 6,000[#3] | | 35 | 26 | 3 | 10 | 10 | 2 | - | - | - | - | - | 6 | 6 | 35 | 0 |
| Zinc (Filtered) | µg/L | 6,000[#3] | | - | - | - | - | - | - | 28 | 16 | 11 | 2.9 | 3.29 | 5 | 5 | 28 | 0 |
| Potassium | mg/L | | | 0.37 | 0.63 | <1 | 0.36 | 0.71 | <1 | - | - | - | - | - | 6 | 4 | 0.71 | 0 |
| Potassium (Filtered) | mg/L | | | - | - | - | - | - | - | 0.72 | 0.46 | 2.6 | - | - | 3 | 3 | 2.6 | 0 |
| Chromium (hexavalent) | µg/L | Use Chromium (total)[#2] | | <10 | <10 | <10 | <10 | <10 | <10 | <7 | <7 | <7 | - | - | 9 | 0 | ND | 0 |
| Chromium (hexavalent) (Filtered) | µg/L | Use Chromium (total)[#2] | | - | - | - | - | - | - | - | - | - | <30 | <30 | 2 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | Use Chromium (total)[#2] | | - | - | <10 | - | - | <10 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Chromium (Trivalent) (Filtered) | µg/L | Use Chromium (total)[#2] | | - | - | - | - | - | - | 4.6 | <1 | 3.4 | <30 | <30 | 5 | 2 | 4.6 | 0 |
| Inorganics | | | | | | | | | | | | | | | | | | |
| Sulphate, Total Potential as SO4 | µg/l | | | - | - | - | - | - | - | 15,000 | 22,000 | 34,000 | - | - | 3 | 3 | 34000 | 0 |
| Ammoniacal Nitrogen | mg/L | | | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.07 | - | - | - | - | - | 6 | 6 | 0.2 | 0 |
| Nitrate (undifferentiated) | mg/L | | | 4.9 | 9.3 | - | 10.8 | 6.3 | - | - | - | - | - | - | 4 | 4 | 10.8 | 0 |
| Nitrite (undifferentiated) | mg/L | | | 0.1 | 0.1 | - | 0.1 | 0.1 | - | - | - | - | - | - | 4 | 4 | 0.1 | 0 |
| BOD | mg/L | | | 2 | 0.2 | - | 2 | 2 | - | - | - | - | - | - | 4 | 4 | 2 | 0 |
| Cyanide (Free) | mg/L | Use Cyanide Total[#2] | | <0.1 | <0.1 | <0.005 | <0.1 | <0.1 | <0.005 | <0.0001 | <0.0001 | <0.0001 | - | - | 9 | 0 | ND | 0 |
| Cyanide (Free) (Filtered) | mg/L | Use Cyanide Total[#2] | | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | 2 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.05[#2] | | <0.1 | <0.1 | <0.005 | **0.6** | <0.1 | <0.005 | - | - | - | - | - | 6 | 1 | 0.6 | 1 |
| Cyanide Total (Filtered) | mg/L | 0.05[#2] | | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 3 | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| Cyanide, Total Low Level | ug/l | 50[#2] | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| Thiocyanate | mg/L | 0.004[#3] | | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Fluoride | mg/L | 1.5[#2] | | 0.2 | 0.1 | - | 0.2 | 0.2 | - | <0.1 | <0.1 | <0.1 | - | - | 7 | 4 | 0.2 | 0 |
| Fluoride (Filtered) | mg/L | 1.5[#2] | | - | - | - | - | - | - | - | - | - | <0.5 | <0.5 | 2 | 0 | ND | 0 |
| Sulphate | mg/L | 250[#2] | | - | - | 8 | - | - | 11 | - | - | - | - | - | 2 | 2 | 11 | 0 |
| Chloride | mg/L | 250[#2] | | 14 | 15 | 22 | 20 | 16 | 35 | 24 | 19 | 27 | - | - | 9 | 9 | 35 | 0 |
| Chloride (Filtered) | mg/L | 250[#2] | | - | - | - | - | - | - | - | - | - | 16.7 | 54.4 | 2 | 2 | 54.4 | 0 |
| Nitrate (as NO3-) | mg/L | 50[#2] | | - | - | **85.13** | - | - | 33.19 | 38 | 37 | 30 | - | - | 5 | 5 | 85.13 | 1 |
| Nitrate (as NO3-) (Filtered) | mg/L | 50[#2] | | - | - | - | - | - | - | - | - | - | 26.9 | **52.2** | 2 | 2 | 52.2 | 1 |
| Nitrite (as NO2-) | mg/L | 0.5[#2] | | - | - | <0.1 | - | - | <0.1 | <0.1 | **0.68** | <0.1 | - | - | 5 | 1 | 0.68 | 1 |
| Nitrite (as NO2-) (Filtered) | mg/L | 0.5[#2] | | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | 2 | 0 | ND | 0 |
| Ortho Phosphate as PO4 | mg/L | | | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | 3 | 0 | ND | 0 |
| Ortho Phosphate as PO4 (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | 2 | 0 | ND | 0 |
| Ortho Phosphate as P (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Sulphide | mg/L | | | 0.2 | 0.2 | - | 0.2 | 0.2 | - | - | - | - | - | - | 4 | 4 | 0.2 | 0 |
| Phosphate | µg/L | | | 100 | 100 | - | 100 | 100 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | - | - | - | - | - | - | 200 | 160 | 180 | 422 | 207 | 5 | 5 | 422 | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | - | - | - | - | - | - | <10 | <10 | <10 | <2 | <2 | 5 | 0 | ND | 0 |
| Reactive Phosphorus as P | mg/L | | | - | - | - | - | - | - | <0.03 | <0.03 | <0.03 | - | - | 3 | 0 | ND | 0 |
| Sulphite as SO3- | µg/L | | | 10 | 20 | - | 10 | 10 | - | - | - | - | - | - | 4 | 4 | 20 | 0 |
| Phosphorus total (P2O5) | mg/L | | | - | - | <0.02 | - | - | <0.02 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | - | - | - | - | - | - | 200 | 170 | 200 | 422 | 207 | 5 | 5 | 422 | 0 |
| Ammoniacal Nitrogen as N | mg/L | | | - | - | - | - | - | - | 0.19 | 0.08 | 0.02 | <0.2 | <0.2 | 5 | 3 | 0.19 | 0 |
| Sulphate (soluble) (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | 10.5 | 26.2 | 2 | 2 | 26.2 | 0 |
| COD | mg/L | | | 5 | 7 | - | 5 | 5 | - | - | - | - | - | - | 4 | 4 | 7 | 0 |
| TDS | mg/L | | | 324 | 312 | - | 307 | 320 | - | 390 | 360 | 370 | - | - | 7 | 7 | 390 | 0 |
| TDS (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | 350 | 477 | 2 | 2 | 477 | 0 |
| Other | | | | | | | | | | | | | | | | | | |
| Electrical conductivity *(lab) | µS/cm | | | - | - | - | - | - | - | 554 | 498 | 575 | 445 | 601 | 5 | 5 | 601 | 0 |
| Dissolved Organic Carbon | mg/L | | | - | - | 0.5 | - | - | 1.4 | <2 | <2 | <2 | - | - | 5 | 2 | 1.4 | 0 |
| Dissolved Organic Carbon (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | <3 | <3 | 2 | 0 | ND | 0 |
| pH (Lab) | pH_Units | | | - | - | - | - | - | - | - | - | - | 7.43 | 7.44 | 2 | 2 | 7.44 | 0 |
| Biological | | | | | | | | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | 0 | - | - | 0 | - | - | - | - | - | 2 | 2 | ND | 0 |
| Coliform | cfu/100 ml | | | - | - | 1 | - | - | 1 | - | - | - | - | - | 2 | 2 | 1 | 0 |
| Dissolved Gases | | | | | | | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | 15.8 | - | - | 20.8 | - | - | - | - | - | 2 | 2 | 20.8 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | 2 | - | - | 3 | - | - | - | - | - | 2 | 2 | 3 | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Field | | | | | | | | | | | | | | | | | | |
| pH | pH_Units | | | - | - | 7.56 | - | - | 7.62 | 7.2 | 7.4 | 7.5 | - | - | 5 | 5 | 7.62 | 0 |
| Dissolved Oxygen | mg/L | | | - | - | 9.7 | - | - | 9.8 | 9.1 | 9.4 | 9.1 | 9 | 10.7 | 7 | 7 | 10.7 | 0 |
| Turbidity | NTU | | | - | - | - | - | - | - | 570 | 260 | 560 | - | - | 3 | 3 | 570 | 0 |

| | EC Protective of Groundwater (DWS) | **Monitoring Zone** | Area 3 | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Location** | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | **Date** | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | **Sample Type** | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| Units | | **Lab Report Number** | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:USEPA RSL (tapwater) [May 2020]
#4:AECOM DWG (WHO method)
#5:WHO DWG 2017
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area_3 | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| **TPH** | | | | | | | | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | - | - | - | - | - | - | - | - | - | <50 | <50 | 2 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | | | - | - | <1 | - | - | <1 | <0.1 | <0.1 | <0.1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | | | - | - | <1 | - | - | <1 | <0.1 | <0.1 | <0.1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | | | - | - | <1 | - | - | <1 | <0.1 | <0.1 | <0.1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | | | - | - | <10 | - | - | <10 | <2 | <2 | <2 | <10 | <10 | 7 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >C5-C35 Aliphatics | µg/L | | | - | - | - | - | - | - | <10 | <10 | <10 | - | - | 3 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | | - | - | - | - | - | - | - | - | - | <10 | <10 | 2 | 0 | ND | 0 |
| >C6-C7 Aromatics | µg/L | 10[#1] | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| >C7-C8 Aromatics | µg/L | 74[#2] | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| >C8 -C10 Aromatics | µg/L | | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 10[#1] | | - | - | <1 | - | - | <1 | - | - | - | <10 | <10 | 4 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 74[#2] | | - | - | <1 | - | - | <1 | - | - | - | <10 | <10 | 4 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | | | - | - | - | - | - | - | - | - | - | <10 | <10 | 2 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | | | - | - | <5 | - | - | <5 | <1 | <1 | <1 | <10 | <10 | 7 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | <10 | <10 | 5 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | | | - | - | - | - | - | - | - | - | - | <10 | <10 | 2 | 0 | ND | 0 |
| >C5-C35 Aromatics | µg/L | | | - | - | - | - | - | - | <10 | <10 | <10 | - | - | 3 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | - | - | - | - | - | - | <10 | <10 | <10 | <10 | <10 | 5 | 0 | ND | 0 |
| Gasoline Range Organics | µg/L | | | 100 | 100 | - | 100 | 100 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| Diesel Range Organics | µg/L | | | 100 | 100 | - | 100 | 100 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| Total Aliphatics | µg/L | | | - | - | <5 | - | - | <5 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | <5 | - | - | <5 | - | - | - | - | - | 2 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | <5 | - | - | <5 | - | - | - | - | - | 2 | 0 | ND | 0 |
| VOC | | | | | | | | | | | | | | | | | | |
| 1,3,5-Trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#3] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Dichlorodifluoromethane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| MTBE | µg/L | 5.100[#4] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Chloromethane | µg/L | | | - | - | <10 | - | - | <10 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 77[#4] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Bromomethane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Chloroethane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 9[#4] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#1] | | - | - | <5 | - | - | <5 | - | - | - | <3 | <3 | 4 | 0 | ND | 0 |
| trans-1,2-dichloroethene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Bromochloromethane | µg/L | | | - | - | <5 | - | - | <5 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Chloroform | µg/L | 2.5[#1] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 100[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 12[#1] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 10[#1] | | - | - | <2 | - | - | <2 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Benzene | µg/L | 10[#1] | | - | - | <1 | - | - | <1 | <1 | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Trichloroethene | µg/L | 10[#1] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Dibromomethane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | | | - | - | <10 | - | - | <10 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Toluene | µg/L | 74[#2] | | - | - | <1 | - | - | <1 | <1 | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 400[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | 10[#1] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Sum of PCE and TCE | µg/L | | | - | - | <2 | - | - | <2 | - | - | - | <2 | <2 | 4 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | | | - | - | <3 | - | - | <3 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dibromoethane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Chlorobenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 20[#5] | | - | - | <1 | - | - | <1 | <1 | <1 | <1 | <1 | <1 | 7 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Xylene Total | µg/L | 30[#5] | | - | - | <2 | - | - | <2 | <1 | <1 | <1 | <2 | <2 | 7 | 0 | ND | 0 |
| Xylene (o) | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Total BTEX | µg/L | | | - | - | - | - | - | - | - | - | - | <28 | <28 | 2 | 0 | ND | 0 |
| Styrene | µg/L | 50[#5] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Bromoform | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 140[#2] | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area_3 | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| Bromobenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| n-propylbenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | | | - | - | <2 | - | - | <2 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| sec-butylbenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| p-isopropyltoluene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| n-butylbenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | | | - | - | <2 | - | - | <2 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#3] | | - | - | <3 | - | - | <3 | - | - | - | <0.01 | <0.01 | 4 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.6[#6] | | - | - | <1 | - | - | <1 | - | - | - | <0.01 | <0.01 | 4 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#3] | | - | - | <3 | - | - | <3 | - | - | - | <0.01 | <0.01 | 4 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | | | - | - | <2 | - | - | <2 | - | - | - | <2 | <2 | 4 | 0 | ND | 0 |
| Trihalomethanes | µg/L | | | - | - | <15 | - | - | <15 | - | - | - | <4 | <4 | 4 | 0 | ND | 0 |
| VOC TICs | µg/L | | | - | - | - | - | - | - | - | - | - | <10 | <10 | 2 | 0 | ND | 0 |
| Carbon disulfide | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <1 | <1 | 4 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.05[#6] | | - | - | <1 | - | - | <1 | - | - | - | <0.01 | <0.01 | 4 | 0 | ND | 0 |
| Tert Amyl Methyl Ether | µg/L | 510[#4] | | - | - | - | - | - | - | - | - | - | <1 | <1 | 2 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.4[#1] | | - | - | <6 | - | - | <6 | - | - | - | <0.03 | <0.03 | 4 | 0 | ND | 0 |
| PAH | | | | | | | | | | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.05 | <0.05 | <0.05 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| Acenaphthylene | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Acenaphthene | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | 0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 1 | 0.01 | 0 |
| Fluorene | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Phenanthrene | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Anthracene | µg/L | 0.1[#1] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Fluoranthene | µg/L | 0.0063[#1] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | 0.04 | <0.01 | 0.01 | <8 - 0.00584 | <0.005 | 11 | 3 | 0.04 | 2 |
| Pyrene | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | 0.03 | <0.01 | 0.05 | <8 - 0.00686 | <0.005 | 11 | 3 | 0.05 | 0 |
| Benz(a)anthracene | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Chrysene | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <8 - 0.00598 | <0.002 | 11 | 1 | 0.00598 | 1 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#3] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Dibenz(a,h)anthracene | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Benzo(b)fluoranthene | µg/L | 0.017[#6] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <8 - 0.0107 | <0.005 | 11 | 1 | 0.0107 | 0 |
| Benzo(k)fluoranthene | µg/L | 0.017[#6] | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | <0.005 | <0.005 | 11 | 0 | ND | 0 |
| Benzo(b)&(k)fluoranthene | µg/L | | | <20 | <20 | <0.02 | <20 | <20 | <0.02 | <0.02 | <0.02 | <0.02 | 0.0157 | <0.01 | 11 | 1 | 0.0157 | 0 |
| PAHs (Sum of total) | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | - | - | 3 | 0 | ND | 0 |
| PAHs (sum of 4) | µg/L | | | <40 | <40 | <0.04 | <40 | <40 | <0.04 | <0.04 | <0.04 | <0.04 | 0.0257 | <0.02 | 11 | 1 | 0.0257 | 0 |
| PAH 16 Total | µg/L | | | - | - | <0.01 | - | - | <0.01 | - | - | - | <0.082 | <0.082 | 4 | 0 | ND | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <20 | <20 | <0.02 | <20 | <20 | <0.02 | <0.02 | <0.02 | <0.02 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <10 | <10 | <0.01 | <10 | <10 | <0.01 | <0.01 | <0.01 | <0.01 | 0.00598 | <0.002 | 11 | 1 | 0.00598 | 0 |
| SVOC | | | | | | | | | | | | | | | | | | |
| Trimethylphenols | µg/L | | | 10 | 100 | - | 10 | 10 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| SVOC TICs | µg/L | | | - | - | - | - | - | - | - | - | - | <80 | <10 | 2 | 0 | ND | 0 |
| 2-chlorophenol | µg/L | 50[#5] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2-methylphenol | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 4.2[#2] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 40[#5] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 4-methylphenol | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 0.4[#1] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Phenol | µg/L | 7.7[#2] | | <100 | <100 | <1 | <100 | <100 | <1 | <1.5 | <1.5 | <1.5 | <8 | <1 | 11 | 0 | ND | 0 |
| Phenol (Filtered) | µg/L | 7.7[#2] | | - | - | - | - | - | - | - | - | - | <2 | <2 | 2 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 1.3[#1] | | - | - | <10 | - | - | <10 | - | - | - | <16 | <2 | 4 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 7.5[#2] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 8[#5] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 20[#5] | | - | - | <10 | - | - | <10 | - | - | - | <40 | <5 | 4 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 200[#5] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | 800[#5] | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2-nitroaniline | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| 3-nitroaniline | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 4-chloroaniline | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| 4-chlorophenyl phenyl ether | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| 4-nitroaniline | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area_3 | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| Azobenzene | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <1 | 2 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Carbazole | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Dibenzofuran | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Hexachloroethane | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Isophorone | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Cresol Total (Filtered) | µg/L | | | - | - | - | - | - | - | - | - | - | <6 | <6 | 2 | 0 | ND | 0 |
| Total Monohydric Phenols (S) Corrected (Filtered) | µg/L | | | - | - | - | - | - | - | - | - | - | <16 | <16 | 2 | 0 | ND | 0 |
| Xylenols (Filtered) | µg/L | | | - | - | - | - | - | - | - | - | - | <8 | <8 | 2 | 0 | ND | 0 |
| Dimethylphenethylamine | µg/L | | | 10 | 100 | - | 10 | 10 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| PCBs | | | | | | | | | | | | | | | | | | |
| PCB | µg/L | | | 50 | 5 | - | 0.5 | 0.5 | - | - | - | - | - | - | 4 | 4 | 50 | 0 |
| PCB 118+123 | µg/L | | | - | - | - | - | - | - | <0.6 | <0.6 | <0.6 | - | - | 3 | 0 | ND | 0 |
| PCB congener 28 + 31 | µg/L | | | - | - | - | - | - | - | <0.3 | <0.3 | <0.3 | - | - | 3 | 0 | ND | 0 |
| PCB 118 | µg/L | | | - | - | - | - | - | - | - | - | - | <0.015 | <0.015 | 2 | 0 | ND | 0 |
| PCB 28 | µg/L | | | - | - | - | - | - | - | - | - | - | <0.015 | <0.015 | 2 | 0 | ND | 0 |
| PCB 52 | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| PCB 101 | µg/L | | | - | - | - | - | - | - | <0.3 | <0.3 | <0.3 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| PCB 138 | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| PCB 153 | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| PCB 180 | µg/L | | | - | - | - | - | - | - | <0.2 | <0.2 | <0.2 | <0.015 | <0.015 | 5 | 0 | ND | 0 |
| Total PCB 7 Congeners | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | <0.105 | <0.105 | 5 | 0 | ND | 0 |
| Herbicides and Pesticides | | | | | | | | | | | | | | | | | | |
| Bolstar | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Permethrin I | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Tokuthion | mg/L | | | - | - | - | - | - | - | <0.001 | <0.001 | <0.001 | - | - | 3 | 0 | ND | 0 |
| Aldrin | µg/L | Use Aldrin+Dieldrin+Endrin+Isodrin[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| a-BHC | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| b-BHC | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlordane (cis) | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Dieldrin | µg/L | Use Aldrin+Dieldrin+Endrin+Isodrin[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Endosulfan I | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Endosulfan II | µg/L | | | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Endosulfan sulphate | µg/L | | | - | - | - | - | - | - | - | - | - | <0.04 | <0.06 | 2 | 0 | ND | 0 |
| Endrin | µg/L | Use Aldrin+Dieldrin+Endrin+Isodrin[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| g-BHC (Lindane) | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Heptachlor | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.02 | 2 | 0 | ND | 0 |
| Heptachlor epoxide | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Isodrin | µg/L | Use Aldrin+Dieldrin+Endrin+Isodrin[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| o,p''-DDE | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| 2,4-DDT | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.04 | 2 | 0 | ND | 0 |
| o,p''-Methoxychlor | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.05 | 2 | 0 | ND | 0 |
| o,p-DDD | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| 4,4-DDE | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| DDT | µg/L | 0.01[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.08 | 2 | 0 | ND | 0 |
| Methoxychlor | µg/L | | | - | - | - | - | - | - | - | - | - | <0.02 | <0.1 | 2 | 0 | ND | 0 |
| Pendimethalin | µg/L | 0.3[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Permethrin II | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Tecnazene | mg/L | 0.001[#5] | | - | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | 2 | 0 | ND | 0 |
| Chlordane (trans) | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Triadimefon | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Triallate | µg/L | 0.25[#5] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Trifluralin | µg/L | 0.03[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Aldrin + Dieldrin | µg/L | | | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| d-BHC | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Azinphos Ethyl | µg/L | | | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Azinophos methyl | µg/L | 0.01[#5] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.02 | <0.02 | 5 | 0 | ND | 0 |
| Carbophenothion | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlorfenvinphos | µg/L | 0.1[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlorpyrifos | µg/L | 0.03[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlorpyrifos-methyl | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Diazinon | µg/L | 0.01[#2] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Dichlorvos | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Dimethoate | µg/L | 0.48[#2] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Ethion | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Parathion | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Fenitrothion | µg/L | 0.01[#5] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Fenthion | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Malathion | µg/L | 0.01[#5] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Methyl parathion | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | µg/L | 0.02[#7] | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Phosalone | mg/L | | | - | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | 2 | 0 | ND | 0 |
| Pirimiphos-methyl | µg/L | 0.015[#5] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Propetamphos | mg/L | 0.00003[#5] | | - | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area_3 | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| Triazophos | mg/L | 0.000005[#5] | | - | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | 2 | 0 | ND | 0 |
| Coumaphos | µg/L | 0.03[#5] | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Demeton-O | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Demeton-S | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Disulfoton | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Ethoprop | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Fensulfothion | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Merphos | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Naled (Dibrom) | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Phorate | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Ronnel | µg/L | 0.03[#5] | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Stirophos | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Demeton-S-methyl | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Aldrin+Dieldrin+Endrin+Isodrin | µg/L | 0.01[#1] | | - | - | - | - | - | - | - | - | - | <0.04 | <0.04 | 2 | 0 | ND | 0 |
| Trichlorinate | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Atrazine | µg/L | 0.6[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Simazine | µg/L | 1[#1] | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Chlopyrifos | µg/L | | | - | - | - | - | - | - | <1 | <1 | <1 | - | - | 3 | 0 | ND | 0 |
| Dichlobenil | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| p,p-DDT | µg/L | | | - | - | - | - | - | - | - | - | - | <0.01 | <0.01 | 2 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Nitrobenzene | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | <8 | <1 | 4 | 0 | ND | 0 |
| Metals | | | | | | | | | | | | | | | | | | |
| Antimony | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Antimony (Filtered) | µg/L | | | - | - | - | - | - | - | <0.17 | 0.23 | <0.17 | <1 | <1 | 5 | 1 | 0.23 | 0 |
| Arsenic | µg/L | 50[#2] | | 1 | 1 | <1 | 1 | 1 | <1 | - | - | - | - | - | 6 | 4 | 1 | 0 |
| Arsenic (Filtered) | µg/L | 50[#2] | | - | - | - | - | - | - | 1.6 | 1.7 | 2 | <0.5 | <0.5 | 5 | 3 | 2 | 0 |
| Beryllium | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Beryllium (Filtered) | µg/L | | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 5 | 0 | ND | 0 |
| Boron | µg/L | 2,000[#5] | | 50 | 50 | <10 | 50 | 50 | 10 | - | - | - | - | - | 6 | 5 | 50 | 0 |
| Boron (Filtered) | µg/L | 2,000[#5] | | - | - | - | - | - | - | <12 | 16 | 23 | <10 | 10.9 | 5 | 3 | 23 | 0 |
| Cadmium | µg/L | 0.08[#1] | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | - | - | - | - | - | 6 | 0 | ND | 0 |
| Cadmium (Filtered) | µg/L | 0.08[#1] | | - | - | - | - | - | - | <0.02 | <0.02 | <0.02 | <0.08 | <0.08 | 5 | 0 | ND | 0 |
| Calcium | mg/L | | | 141 | 103 | 87 | 1,110 | 122 | 82 | - | - | - | - | - | 6 | 6 | 1110 | 0 |
| Calcium (Filtered) | mg/L | | | - | - | - | - | - | - | 110 | 92 | 100 | 87 | 106 | 5 | 5 | 110 | 0 |
| Chromium (III+VI) | µg/L | | | 9 | 1 | 6 | 8 | 5 | 7 | - | - | - | - | - | 6 | 6 | 9 | 0 |
| Chromium (III+VI) (Filtered) | µg/L | | | - | - | - | - | - | - | 4.4 | 0.43 | 3.4 | <1 | <1 | 5 | 3 | 4.4 | 0 |
| Copper | µg/L | 1[#2] | | **11** | **20** | **3** | **7** | **16** | **2** | - | - | - | - | - | 6 | 6 | 20 | 6 |
| Copper (Filtered) | µg/L | 1[#2] | | - | - | - | - | - | - | **3** | **1.2** | **1.2** | 0.668 | **1.01** | 5 | 5 | 3 | 4 |
| Iron | µg/L | 1,000[#2] | | 530 | 100 | - | **3,630** | 70 | - | - | - | - | - | - | 4 | 4 | 3630 | 1 |
| Iron (Filtered) | µg/L | 1,000[#2] | | - | - | - | - | - | - | <5.5 | <5.5 | <5.5 | 22.8 | <19 | 5 | 1 | 22.8 | 0 |
| Lead | µg/L | 1.2[#1] | | **13** | 1 | <1 | 1 | 1 | <1 | - | - | - | - | - | 6 | 4 | 13 | 1 |
| Lead (Filtered) | µg/L | 1.2[#1] | | - | - | - | - | - | - | <0.09 | <0.09 | <0.09 | <0.2 | 0.216 | 5 | 1 | 0.216 | 0 |
| Magnesium | mg/L | | | 1.23 | 1.22 | 4 | 4.63 | 1.45 | 7 | - | - | - | - | - | 6 | 6 | 7 | 0 |
| Magnesium (Filtered) | mg/L | | | - | - | - | - | - | - | 1.2 | 1.2 | 3.3 | 0.919 | 1.88 | 5 | 5 | 3.3 | 0 |
| Manganese | µg/L | 123[#2] | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Manganese (Filtered) | µg/L | 123[#2] | | - | - | - | - | - | - | 10 | 110 | 50 | 3.05 | <3 | 5 | 4 | 110 | 0 |
| Mercury | µg/L | 0.07[#6] | | 0.1 | 1 | <0.1 | 0.1 | 0.1 | <0.1 | - | - | - | - | - | 6 | 4 | 1 | 0 |
| Mercury (Filtered) | µg/L | 0.07[#6] | | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 5 | 0 | ND | 0 |
| Molybdenum | µg/L | | | - | - | <0.5 | - | - | <0.5 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Molybdenum (Filtered) | µg/L | | | - | - | - | - | - | - | <1.1 | 4.9 | <1.1 | <3 | 3.22 | 5 | 2 | 4.9 | 0 |
| Nickel | µg/L | 4[#1] | | **4** | 2 | <1 | 3 | 2 | <1 | - | - | - | - | - | 6 | 4 | 4 | 1 |
| Nickel (Filtered) | µg/L | 4[#1] | | - | - | - | - | - | - | **9.3** | **12** | **4.3** | 1.9 | 1.94 | 5 | 5 | 12 | 3 |
| Phosphorus (Filtered) | µg/L | See source document[#1] | | - | - | - | - | - | - | 60 | 61 | 84 | <10 | <10 | 5 | 3 | 84 | 0 |
| Selenium | µg/L | | | 1 | 1 | <1 | 1 | 1 | <1 | - | - | - | - | - | 6 | 4 | 1 | 0 |
| Selenium (Filtered) | µg/L | | | - | - | - | - | - | - | 0.29 | <0.25 | 0.33 | <1 | <1 | 5 | 2 | 0.33 | 0 |
| Sodium | mg/L | | | 6.08 | 7.43 | 9 | 6.33 | 7.72 | 15 | - | - | - | - | - | 6 | 6 | 15 | 0 |
| Sodium (Filtered) | mg/L | | | - | - | - | - | - | - | 10 | 8.2 | 16 | 6.09 | 28.1 | 5 | 5 | 28.1 | 0 |
| Zinc | µg/L | 10.9[#2] | | **35** | **26** | 3 | 10 | 10 | 2 | - | - | - | - | - | 6 | 6 | 35 | 2 |
| Zinc (Filtered) | µg/L | 10.9[#2] | | - | - | - | - | - | - | **28** | **16** | **11** | 2.9 | 3.29 | 5 | 5 | 28 | 3 |
| Potassium | mg/L | | | 0.37 | 0.63 | <1 | 0.36 | 0.71 | <1 | - | - | - | - | - | 6 | 4 | 0.71 | 0 |
| Potassium (Filtered) | mg/L | | | - | - | - | - | - | - | 0.72 | 0.46 | 2.6 | - | - | 3 | 3 | 2.6 | 0 |
| Chromium (hexavalent) | µg/L | 3.4[#2] | | <10 | <10 | <10 | <10 | <10 | <10 | <7 | <7 | <7 | - | - | 9 | 0 | ND | 0 |
| Chromium (hexavalent) (Filtered) | µg/L | 3.4[#2] | | - | - | - | - | - | - | - | - | - | <30 | <30 | 2 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | 4.7[#2] | | - | - | <10 | - | - | <10 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Chromium (Trivalent) (Filtered) | µg/L | 4.7[#2] | | - | - | - | - | - | - | 4.6 | <1 | 3.4 | <30 | <30 | 5 | 2 | 4.6 | 0 |
| Inorganics | | | | | | | | | | | | | | | | | | |
| Sulphate, Total Potential as SO4 | µg/l | | | - | - | - | - | - | - | 15,000 | 22,000 | 34,000 | - | - | 3 | 3 | 34000 | 0 |
| Ammoniacal Nitrogen | mg/L | | | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.07 | - | - | - | - | - | 6 | 6 | 0.2 | 0 |
| Nitrate (undifferentiated) | mg/L | | | 4.9 | 9.3 | - | 10.8 | 6.3 | - | - | - | - | - | - | 4 | 4 | 10.8 | 0 |
| Nitrite (undifferentiated) | mg/L | | | 0.1 | 0.1 | - | 0.1 | 0.1 | - | - | - | - | - | - | 4 | 4 | 0.1 | 0 |
| BOD | mg/L | | | 2 | 0.2 | - | 2 | 2 | - | - | - | - | - | - | 4 | 4 | 2 | 0 |
| Cyanide (Free) | mg/L | 0.001[#5] | | <0.1 | <0.1 | <0.005 | <0.1 | <0.1 | <0.005 | <0.0001 | <0.0001 | <0.0001 | - | - | 9 | 0 | ND | 0 |
| Cyanide (Free) (Filtered) | mg/L | 0.001[#5] | | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | 2 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.001[#2] | | <0.1 | <0.1 | <0.005 | **0.6** | <0.1 | <0.005 | - | - | - | - | - | 6 | 1 | 0.6 | 1 |
| Cyanide Total (Filtered) | mg/L | 0.001[#2] | | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | 2 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area_3 | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | P1 | P2 | PX505A | R13 | R16 | R503B | R71901 | R71903 | R71904 | R71905 | R71915 | | | | |
| | | | Date | 24/04/2001 | 24/04/2001 | 05/04/2017 | 24/04/2001 | 24/04/2001 | 27/03/2017 | 02/07/2019 | 02/07/2019 | 01/07/2019 | 02/12/2020 | 30/11/2020 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | GIR_2001 | GIR_2001 | GIR_2017 | GIR_2001 | GIR_2001 | GIR_2017 | 19-12734 | 19-12734 | 19-12734 | 580279 | 581226 | | | | |
| Cyanide, Total Low Level | ug/l | 1 #2 | | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | 3 | 0 | ND | 0 |
| Thiocyanate | mg/L | | | <0.1 | <0.1 | - | <0.1 | <0.1 | - | - | - | - | - | - | 4 | 0 | ND | 0 |
| Fluoride | mg/L | 1 #5 | | 0.2 | 0.1 | - | 0.2 | 0.2 | - | <0.1 | <0.1 | <0.1 | - | - | 7 | 4 | 0.2 | 0 |
| Fluoride (Filtered) | mg/L | 1 #5 | | - | - | - | - | - | - | - | - | - | <0.5 | <0.5 | 2 | 0 | ND | 0 |
| Sulphate | mg/L | 400 #5 | | - | - | 8 | - | - | 11 | - | - | - | - | - | 2 | 2 | 11 | 0 |
| Chloride | mg/L | 250 #5 | | 14 | 15 | 22 | 20 | 16 | 35 | 24 | 19 | 27 | - | - | 9 | 9 | 35 | 0 |
| Chloride (Filtered) | mg/L | 250 #5 | | - | - | - | - | - | - | - | - | - | 16.7 | 54.4 | 2 | 2 | 54.4 | 0 |
| Nitrate (as NO3-) | mg/L | | | - | - | 85.13 | - | - | 33.19 | 38 | 37 | 30 | - | - | 5 | 5 | 85.13 | 0 |
| Nitrate (as NO3-) (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | 26.9 | 52.2 | 2 | 2 | 52.2 | 0 |
| Nitrite (as NO2-) | mg/L | | | - | - | <0.1 | - | - | <0.1 | <0.1 | 0.68 | <0.1 | - | - | 5 | 1 | 0.68 | 0 |
| Nitrite (as NO2-) (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | 2 | 0 | ND | 0 |
| Ortho Phosphate as PO4 | mg/L | | | - | - | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | 3 | 0 | ND | 0 |
| Ortho Phosphate as PO4 (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | <0.05 | <0.05 | 2 | 0 | ND | 0 |
| Ortho Phosphate as P (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | <0.02 | <0.02 | 2 | 0 | ND | 0 |
| Sulphide | mg/L | | | 0.2 | 0.2 | - | 0.2 | 0.2 | - | - | - | - | - | - | 4 | 4 | 0.2 | 0 |
| Phosphate | µg/L | | | 100 | 100 | - | 100 | 100 | - | - | - | - | - | - | 4 | 4 | 100 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | - | - | - | - | - | - | 200 | 160 | 180 | 422 | 207 | 5 | 5 | 422 | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | - | - | - | - | - | - | <10 | <10 | <10 | <2 | <2 | 5 | 0 | ND | 0 |
| Reactive Phosphorus as P | mg/L | | | - | - | - | - | - | - | <0.03 | <0.03 | <0.03 | - | - | 3 | 0 | ND | 0 |
| Sulphite as SO3- | µg/L | | | 10 | 20 | - | 10 | 10 | - | - | - | - | - | - | 4 | 4 | 20 | 0 |
| Phosphorus total (P2O5) | mg/L | | | - | - | <0.02 | - | - | <0.02 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | - | - | - | - | - | - | 200 | 170 | 200 | 422 | 207 | 5 | 5 | 422 | 0 |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen) #2 | | - | - | - | - | - | - | 0.19 | 0.08 | 0.02 | <0.2 | <0.2 | 5 | 3 | 0.19 | 0 |
| Sulphate (soluble) (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | 10.5 | 26.2 | 2 | 2 | 26.2 | 0 |
| COD | mg/L | | | 5 | 7 | - | 5 | 5 | - | - | - | - | - | - | 4 | 4 | 7 | 0 |
| TDS | mg/L | | | 324 | 312 | - | 307 | 320 | - | 390 | 360 | 370 | - | - | 7 | 7 | 390 | 0 |
| TDS (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | 350 | 477 | 2 | 2 | 477 | 0 |
| Other | | | | | | | | | | | | | | | | | | |
| Electrical conductivity *(lab) | µS/cm | | | - | - | - | - | - | - | 554 | 498 | 575 | 445 | 601 | 5 | 5 | 601 | 0 |
| Dissolved Organic Carbon | mg/L | | | - | - | 0.5 | - | - | 1.4 | <2 | <2 | <2 | - | - | 5 | 2 | 1.4 | 0 |
| Dissolved Organic Carbon (Filtered) | mg/L | | | - | - | - | - | - | - | - | - | - | <3 | <3 | 2 | 0 | ND | 0 |
| pH (Lab) | pH_Units | | | - | - | - | - | - | - | - | - | - | 7.43 | 7.44 | 2 | 2 | 7.44 | 0 |
| Biological | | | | | | | | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | 0 | - | - | 0 | - | - | - | - | - | 2 | 2 | ND | 0 |
| Coliform | cfu/100 ml | | | - | - | 1 | - | - | 1 | - | - | - | - | - | 2 | 2 | 1 | 0 |
| Dissolved Gases | | | | | | | | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | 15.8 | - | - | 20.8 | - | - | - | - | - | 2 | 2 | 20.8 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | 2 | - | - | 3 | - | - | - | - | - | 2 | 2 | 3 | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | <1 | - | - | <1 | - | - | - | - | - | 2 | 0 | ND | 0 |
| Field | | | | | | | | | | | | | | | | | | |
| pH | pH_Units | | | - | - | 7.56 | - | - | 7.62 | 7.2 | 7.4 | 7.5 | - | - | 5 | 5 | 7.62 | 0 |
| Dissolved Oxygen | mg/L | | | - | - | 9.7 | - | - | 9.8 | 9.1 | 9.4 | 9.1 | 9 | 10.7 | 7 | 7 | 10.7 | 0 |
| Turbidity | NTU | | | - | - | - | - | - | - | 570 | 260 | 560 | - | - | 3 | 3 | 570 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#4:PNEC (EU REACH) - Freshwater
#5:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#6:WFD England/Wales. 2015 - MAC-EQS Inland
#7:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
XXX Exceedance of EC Protective of Surface Water

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| **TPH** | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | <50 | <50 | <50 | - | 3 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | 15,000[#1] | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | 15,000[#1] | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <5 | 4 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | 300[#1] | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | 300[#1] | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | 300[#1] | | <20 | <50 | <20 | <10 | 4 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | 300[#1] | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | | <20 | <50 | <20 | - | 3 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 1[#2] | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 700[#1] | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | 300[#1] | | <10 | <10 | <10 | - | 3 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | 300[#1] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | 300[#1] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | <5 | 4 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | 90[#1] | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | 90[#1] | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | 90[#1] | | <20 | <50 | <20 | - | 3 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | | | <20 | <50 | <20 | - | 3 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <20 | <50 | <20 | - | 3 | 0 | ND | 0 |
| Total Aliphatics | µg/L | | | - | - | - | <5 | 1 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | - | <5 | 1 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | - | <5 | 1 | 0 | ND | 0 |
| VOC | | | | | | | | | | | |
| 1,3,5-Trichlorobenzene | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Dichlorodifluoromethane | µg/L | 200[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| MTBE | µg/L | 1,800[#4] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Chloromethane | µg/L | 190[#3] | | <1 | <1 | <1 | <10 | 4 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 0.5[#2] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromomethane | µg/L | 7.5[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Chloroethane | µg/L | 21,000[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | 5,200[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 140[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#5] | | <3 | <3 | <3 | <5 | 4 | 0 | ND | 0 |
| trans-1,2-dichloroethene | µg/L | Use '1,2 dichloroethene' criteria[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | 2.8[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | Use '1,2 dichloroethene' criteria[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromochloromethane | µg/L | 83[#3] | | <1 | <1 | <1 | <5 | 4 | 0 | ND | 0 |
| Chloroform | µg/L | Use trihalomethanes[#2] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 2,000[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 3[#2] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 3[#2] | | <1 | <1 | <1 | <2 | 4 | 0 | ND | 0 |
| Benzene | µg/L | 1[#2] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Trichloroethene | µg/L | Use PCE + TCE[#2] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | 40[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Dibromomethane | µg/L | 8.3[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | Use trihalomethanes[#2] | | <1 | <1 | <1 | <10 | 4 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Toluene | µg/L | 700[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 0.28[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | Use PCE + TCE[#2] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | 370[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Sum of PCE and TCE | µg/L | 10[#2] | | <2 | <2 | <2 | <2 | 4 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | Use trihalomethanes[#2] | | <1 | <1 | <1 | <3 | 4 | 0 | ND | 0 |
| 1,2-dibromoethane | µg/L | 0.4[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Chlorobenzene | µg/L | 300[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | 0.57[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 300[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Xylene Total | µg/L | 500[#5] | | <2 | <2 | <2 | <2 | 4 | 0 | ND | 0 |
| Xylene (o) | µg/L | 190[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Total BTEX | µg/L | | | <28 | <28 | <28 | - | 3 | 0 | ND | 0 |
| Styrene | µg/L | 20[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromoform | µg/L | Use trihalomethanes[#2] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | 450[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 0.076[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromobenzene | µg/L | 62[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | 0.00075[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| n-propylbenzene | µg/L | 660[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | 240[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | 60[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | 250[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | 690[#3] | | <1 | <1 | <1 | <2 | 4 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | 56[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| sec-butylbenzene | µg/L | 2,000[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| p-isopropyltoluene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | 300[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| n-butylbenzene | µg/L | 1,000[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | 1,000[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | 1[#5] | | <1 | <1 | <1 | <2 | 4 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | <3 | 4 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | <1 | 4 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | <3 | 4 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | 50[#5] | | <2 | <2 | <2 | <2 | 4 | 0 | ND | 0 |
| Trihalomethanes | µg/L | 100[#2] | | <4 | <4 | <4 | <15 | 4 | 0 | ND | 0 |
| VOC TICs | µg/L | | | <10 | <10 | <10 | - | 3 | 0 | ND | 0 |
| Carbon disulfide | µg/L | 810[#3] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | <1 | 4 | 0 | ND | 0 |
| Tert Amyl Methyl Ether | µg/L | | | <1 | <1 | <1 | - | 3 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.1[#2] | | <0.03 | <0.03 | <0.06 | <6 | 4 | 0 | ND | 0 |
| PAH | | | | | | | | | | | |
| Naphthalene | µg/L | 6[#4] | | <1 - 0.0559 | <0.05 | <0.02 | <0.01 | 4 | 1 | 0.0559 | 0 |
| Acenaphthylene | µg/L | 18[#4] | | <1 - 0.066 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.066 | 0 |
| Acenaphthene | µg/L | 18[#4] | | <1 - 0.0486 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.0486 | 0 |
| Fluorene | µg/L | 12[#4] | | <1 - 0.0687 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.0687 | 0 |
| Phenanthrene | µg/L | 4[#4] | | <1 - 0.342 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.342 | 0 |
| Anthracene | µg/L | 90[#4] | | <1 - 0.159 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.159 | 0 |
| Fluoranthene | µg/L | 4[#5] | | <1 - 0.657 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.657 | 0 |
| Pyrene | µg/L | 9[#4] | | <1 - 0.672 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.672 | 0 |
| Benz(a)anthracene | µg/L | 3.5[#4] | | <1 - 0.499 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.499 | 0 |
| Chrysene | µg/L | 7[#4] | | <1 - 0.669 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.669 | 0 |
| Benzo(a) pyrene | µg/L | 0.01[#2] | | **<1 - 0.66** | <0.01 | <0.004 | <0.01 | 4 | 1 | 0.66 | 1 |
| Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | | <1 - 0.402 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.402 | 0 |
| Dibenz(a,h)anthracene | µg/L | 0.07[#4] | | **<1 - 0.0897** | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.0897 | 1 |
| Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | | <1 - 0.488 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.488 | 0 |
| Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <1 - 0.897 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.897 | 0 |
| Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <1 - 0.333 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.333 | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Benzo(b)&(k)fluoranthene | µg/L | | | 1.23 | <0.05 | <0.02 | <0.02 | 4 | 1 | 1.23 | 0 |
| PAHs (sum of 4) | µg/L | 0.1[#2] | | 2.12 | <0.1 | <0.04 | <0.04 | 4 | 1 | 2.12 | 1 |
| PAH 16 Total | µg/L | | | 6.11 | <0.41 | <0.164 | <0.01 | 4 | 1 | 6.11 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | 0.89 | <0.05 | <0.02 | <0.02 | 4 | 1 | 0.89 | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | 0.66 | <0.01 | <0.004 | <0.01 | 4 | 1 | 0.66 | 0 |
| SVOC | | | | | | | | | | | |
| SVOC TICs | µg/L | | | <10 | <40 | <80 | - | 3 | 0 | ND | 0 |
| 2-chlorophenol | µg/L | 91[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2-methylphenol | µg/L | 930[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 46[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | 360[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | 1,200[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | 200[#5] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 1,400[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 4-methylphenol | µg/L | 1,900[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 9[#5] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Phenol | µg/L | 5,800[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Phenol (Filtered) | µg/L | 5,800[#3] | | <2 | <2 | <2 | - | 3 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | 750[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | 36[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 8[#5] | | <2 | <8 | <16 | <10 | 4 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 16[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 900[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 200[#3] | | <5 | <20 | <40 | <10 | 4 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 15,000[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2-nitroaniline | µg/L | 190[#3] | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| 3-nitroaniline | µg/L | | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 4-chloroaniline | µg/L | 0.37[#3] | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| 4-chlorophenyl phenyl ether | µg/L | | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| 4-nitroaniline | µg/L | 3.8[#3] | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| Azobenzene | µg/L | 0.12[#3] | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | 59[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | 0.014[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Carbazole | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Dibenzofuran | µg/L | 7.9[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | 0.41[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Hexachloroethane | µg/L | 0.33[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Isophorone | µg/L | 78[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | 0.011[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Cresol Total (Filtered) | µg/L | 1,500[#3] | | <6 | <6 | <6 | - | 3 | 0 | ND | 0 |
| Total Monohydric Phenols (S) Corrected (Filtered) | µg/L | | | <16 | <16 | <16 | - | 3 | 0 | ND | 0 |
| Xylenols (Filtered) | µg/L | | | <8 | <8 | <8 | - | 3 | 0 | ND | 0 |
| PCBs | | | | | | | | | | | |
| PCB 118 | µg/L | 0.004[#3] | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 28 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 52 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 101 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 138 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 153 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 180 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| Total PCB 7 Congeners | µg/L | | | <0.21 | <0.525 | <0.21 | - | 3 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Herbicides and Pesticides | | | | | | | | | | | |
| Permethrin I | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Aldrin | µg/L | 0.03[#2] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| a-BHC | µg/L | 0.0072[#3] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| b-BHC | µg/L | 0.025[#3] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Chlordane (cis) | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Dieldrin | µg/L | 0.03[#2] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Endosulfan I | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Endosulfan II | µg/L | 0.1[#2] | | <0.02 | <0.02 | <0.02 | - | 3 | 0 | ND | 0 |
| Endosulfan sulphate | µg/L | 0.1[#2] | | <0.04 | <0.04 | <0.04 | - | 3 | 0 | ND | 0 |
| Endrin | µg/L | 0.1[#2] | | <0.04 | <0.02 | <0.02 | - | 3 | 0 | ND | 0 |
| g-BHC (Lindane) | µg/L | 2[#5] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Heptachlor | µg/L | 0.03[#2] | | <0.02 | <0.02 | <0.01 | - | 3 | 0 | ND | 0 |
| Heptachlor epoxide | µg/L | 0.03[#2] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Isodrin | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| o,p''-DDE | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| 2,4-DDT | µg/L | | | <0.02 | <0.04 | <0.02 | - | 3 | 0 | ND | 0 |
| o,p''-Methoxychlor | µg/L | | | <0.02 | <0.02 | <0.01 | - | 3 | 0 | ND | 0 |
| o,p-DDD | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| 4,4-DDE | µg/L | 0.046[#3] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| DDT | µg/L | 0.1[#2] | | <0.04 | <0.04 | <0.01 | - | 3 | 0 | ND | 0 |
| Methoxychlor | µg/L | 0.1[#2] | | <0.02 | <0.02 | <0.02 | - | 3 | 0 | ND | 0 |
| Pendimethalin | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Permethrin II | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Tecnazene | mg/L | 0.0001[#2] | | <0.00001 | <0.00001 | <0.00002 | - | 3 | 0 | ND | 0 |
| Chlordane (trans) | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Triadimefon | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Triallate | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Trifluralin | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Aldrin + Dieldrin | µg/L | 0.03[#5] | | <0.02 | <0.02 | <0.02 | - | 3 | 0 | ND | 0 |
| d-BHC | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Azinphos Ethyl | µg/L | 0.1[#2] | | <0.02 | <0.02 | <0.04 | - | 3 | 0 | ND | 0 |
| Azinophos methyl | µg/L | 0.1[#2] | | <0.02 | <0.02 | <0.04 | - | 3 | 0 | ND | 0 |
| Carbophenothion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Chlorfenvinphos | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Chlorpyrifos | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Chlorpyrifos-methyl | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Diazinon | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Dichlorvos | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Dimethoate | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Ethion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Parathion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Fenitrothion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Fenthion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Malathion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Methyl parathion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Phosalone | mg/L | 0.0001[#2] | | <0.00001 | <0.00001 | <0.00002 | - | 3 | 0 | ND | 0 |
| Pirimiphos-methyl | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Propetamphos | mg/L | 0.0001[#2] | | <0.00001 | <0.00001 | <0.00002 | - | 3 | 0 | ND | 0 |
| Triazophos | mg/L | 0.0001[#2] | | <0.00001 | <0.00001 | <0.00002 | - | 3 | 0 | ND | 0 |
| Disulfoton | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Phorate | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Demeton-S-methyl | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Aldrin+Dieldrin+Endrin+Isodrin | µg/L | | | <0.07 | <0.05 | <0.05 | - | 3 | 0 | ND | 0 |
| Atrazine | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Simazine | µg/L | 0.1[#2] | | <0.01 | <0.01 | 0.0449 | - | 3 | 1 | 0.0449 | 0 |
| Dichlobenil | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| p,p-DDT | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | 0.24[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | 0.049[#3] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Nitrobenzene | µg/L | 8 to 63[#5] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Metals | | | | | | | | | | | |
| Antimony | µg/L | 5[#2] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Antimony (Filtered) | µg/L | 5[#2] | | <1 | <1 | <1 | - | 3 | 0 | ND | 0 |
| Arsenic | µg/L | 10[#2] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Arsenic (Filtered) | µg/L | 10[#2] | | 1.27 | <0.5 | <0.5 | - | 3 | 1 | 1.27 | 0 |
| Beryllium | µg/L | 12[#5] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Beryllium (Filtered) | µg/L | 12[#5] | | <0.1 | <0.1 | <0.1 | - | 3 | 0 | ND | 0 |
| Boron | µg/L | 1,000[#2] | | - | - | - | 18 | 1 | 1 | 18 | 0 |
| Boron (Filtered) | µg/L | 1,000[#2] | | 22.8 | 30.3 | 13.5 | - | 3 | 3 | 30.3 | 0 |
| Cadmium | µg/L | 5[#2] | | - | - | - | <0.2 | 1 | 0 | ND | 0 |
| Cadmium (Filtered) | µg/L | 5[#2] | | <0.08 | <0.08 | <0.08 | - | 3 | 0 | ND | 0 |
| Calcium | mg/L | | | - | - | - | 89 | 1 | 1 | 89 | 0 |
| Calcium (Filtered) | mg/L | | | 104 | 140 | 107 | - | 3 | 3 | 140 | 0 |
| Chromium (III+VI) | µg/L | 50[#2] | | - | - | - | 10 | 1 | 1 | 10 | 0 |
| Chromium (III+VI) (Filtered) | µg/L | 50[#2] | | <1 | <1 | <1 | - | 3 | 0 | ND | 0 |
| Copper | µg/L | 2,000[#2] | | - | - | - | 10 | 1 | 1 | 10 | 0 |
| Copper (Filtered) | µg/L | 2,000[#2] | | 0.391 | 0.519 | 0.579 | - | 3 | 3 | 0.579 | 0 |
| Iron (Filtered) | µg/L | 200[#2] | | 48.6 | <19 | <19 | - | 3 | 1 | 48.6 | 0 |
| Lead | µg/L | 10[#2] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Lead (Filtered) | µg/L | 10[#2] | | <0.2 | <0.2 | <0.2 | - | 3 | 0 | ND | 0 |
| Magnesium | mg/L | | | - | - | - | 1 | 1 | 1 | 1 | 0 |
| Magnesium (Filtered) | mg/L | | | 1.31 | 2.39 | 1.52 | - | 3 | 3 | 2.39 | 0 |
| Manganese | µg/L | 50[#2] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Manganese (Filtered) | µg/L | 50[#2] | | 102 | 6.53 | <3 | - | 3 | 2 | 102 | 1 |
| Mercury | µg/L | 1[#2] | | - | - | - | <0.1 | 1 | 0 | ND | 0 |
| Mercury (Filtered) | µg/L | 1[#2] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Molybdenum | µg/L | 70[#5] | | - | - | - | <0.5 | 1 | 0 | ND | 0 |
| Molybdenum (Filtered) | µg/L | 70[#5] | | <3 | <3 | <3 | - | 3 | 0 | ND | 0 |
| Nickel | µg/L | 20[#2] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Nickel (Filtered) | µg/L | 20[#2] | | 1.76 | 3.89 | 1.03 | - | 3 | 3 | 3.89 | 0 |
| Phosphorus (Filtered) | µg/L | 0.4[#3] | | <10 | 31.2 | 27 | - | 3 | 2 | 31.2 | 2 |
| Selenium | µg/L | 10[#2] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Selenium (Filtered) | µg/L | 10[#2] | | <1 | <1 | <1 | - | 3 | 0 | ND | 0 |
| Sodium | mg/L | 200[#2] | | - | - | - | 8 | 1 | 1 | 8 | 0 |
| Sodium (Filtered) | mg/L | 200[#2] | | 8.2 | 5.87 | 6.87 | - | 3 | 3 | 8.2 | 0 |
| Zinc | µg/L | 6,000[#3] | | - | - | - | 1 | 1 | 1 | 1 | 0 |
| Zinc (Filtered) | µg/L | 6,000[#3] | | 4.3 | 3 | 4.03 | - | 3 | 3 | 4.3 | 0 |
| Potassium | mg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Chromium (hexavalent) | µg/L | Use Chromium (total)[#2] | | - | - | - | <10 | 1 | 0 | ND | 0 |
| Chromium (hexavalent) (Filtered) | µg/L | Use Chromium (total)[#2] | | <30 | <30 | <30 | - | 3 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | Use Chromium (total)[#2] | | - | - | - | 10 | 1 | 1 | 10 | 0 |
| Chromium (Trivalent) (Filtered) | µg/L | Use Chromium (total)[#2] | | <30 | <30 | <30 | - | 3 | 0 | ND | 0 |
| Inorganics | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | 0.05 | 1 | 1 | 0.05 | 0 |
| Cyanide (Free) | mg/L | Use Cyanide Total[#2] | | - | - | - | <0.005 | 1 | 0 | ND | 0 |
| Cyanide (Free) (Filtered) | mg/L | Use Cyanide Total[#2] | | <0.05 | <0.05 | <0.05 | - | 3 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.05[#2] | | - | - | - | <0.005 | 1 | 0 | ND | 0 |
| Cyanide Total (Filtered) | mg/L | 0.05[#2] | | <0.05 | <0.05 | <0.05 | - | 3 | 0 | ND | 0 |
| Fluoride (Filtered) | mg/L | 1.5[#2] | | <0.5 | <0.5 | <0.5 | - | 3 | 0 | ND | 0 |

| | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Sulphate | mg/L | 250[#2] | | - | - | - | 16 | 1 | 1 | 16 | 0 |
| Chloride | mg/L | 250[#2] | | - | - | - | 13.31 | 1 | 1 | 13.31 | 0 |
| Chloride (Filtered) | mg/L | 250[#2] | | 17.9 | 16.4 | 13.3 | - | 3 | 3 | 17.9 | 0 |
| Nitrate (as NO3-) | mg/L | 50[#2] | | - | - | - | 9.77 | 1 | 1 | 9.77 | 0 |
| Nitrate (as NO3-) (Filtered) | mg/L | 50[#2] | | 18.6 | **60.7** | 35.6 | - | 3 | 3 | 60.7 | 1 |
| Nitrite (as NO2-) | mg/L | 0.5[#2] | | - | - | - | <0.1 | 1 | 0 | ND | 0 |
| Nitrite (as NO2-) (Filtered) | mg/L | 0.5[#2] | | <0.05 | <0.05 | <0.05 | - | 3 | 0 | ND | 0 |
| Ortho Phosphate as PO4 (Filtered) | mg/L | | | <0.05 | 0.081 | 0.063 | - | 3 | 2 | 0.081 | 0 |
| Ortho Phosphate as P (Filtered) | mg/L | | | <0.02 | 0.0264 | 0.0206 | - | 3 | 2 | 0.0264 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | 701 | 889 | 417 | - | 3 | 3 | 889 | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | <2 | <2 | <2 | - | 3 | 0 | ND | 0 |
| Phosphorus total (P2O5) | mg/L | | | - | - | - | 0.036 | 1 | 1 | 0.036 | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 701 | 889 | 417 | - | 3 | 3 | 889 | 0 |
| Ammoniacal Nitrogen as N | mg/L | | | <0.2 | <0.2 | <0.2 | - | 3 | 0 | ND | 0 |
| Sulphate (soluble) (Filtered) | mg/L | | | 16.4 | 27.3 | 18.2 | - | 3 | 3 | 27.3 | 0 |
| TDS (Filtered) | mg/L | | | 350 | 465 | 390 | - | 3 | 3 | 465 | 0 |
| Other | | | | | | | | | | | |
| Electrical conductivity *(lab) | µS/cm | | | 445 | 571 | 490 | - | 3 | 3 | 571 | 0 |
| Dissolved Organic Carbon | mg/L | | | - | - | - | 1 | 1 | 1 | 1 | 0 |
| Dissolved Organic Carbon (Filtered) | mg/L | | | <3 | <3 | <3 | - | 3 | 0 | ND | 0 |
| pH (Lab) | pH_Units | | | 7.46 | 7.34 | 7.4 | - | 3 | 3 | 7.46 | 0 |
| Biological | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | 0 | 1 | 1 | ND | 0 |
| Coliform | cfu/100ml | | | - | - | - | 0 | 1 | 1 | ND | 0 |
| Dissolved Gases | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | - | 12.9 | 1 | 1 | 12.9 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | - | 23 | 1 | 1 | 23 | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Field | | | | | | | | | | | |
| pH | pH_Units | | | - | - | - | 7.69 | 1 | 1 | 7.69 | 0 |
| Dissolved Oxygen | mg/L | | | - | 9.79 | 8.19 | 9.9 | 3 | 3 | 9.9 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:USEPA RSL (tapwater) [May 2020]
#4:AECOM DWG (WHO method)
#5:WHO DWG 2017
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| **TPH** | | | | | | | | | | | |
| GRO >C5-C12 | µg/L | | | <50 | <50 | <50 | - | 3 | 0 | ND | 0 |
| >C5-C6 Aliphatics | µg/L | | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >C6-C8 Aliphatics | µg/L | | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >C8-C10 Aliphatics | µg/L | | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >C10-C12 Aliphatics | µg/L | | | <10 | <10 | <10 | <5 | 4 | 0 | ND | 0 |
| >C12-C16 Aliphatics | µg/L | | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >C16-C21 Aliphatics | µg/L | | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >C16-C35 Aliphatics | µg/L | | | <20 | <50 | <20 | <10 | 4 | 0 | ND | 0 |
| >C21-C35 Aliphatics | µg/L | | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >C12-C35 Aliphatics | µg/L | | | <20 | <50 | <20 | - | 3 | 0 | ND | 0 |
| >EC5-EC7 Aromatics | µg/L | 10[#1] | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >EC7-EC8 Aromatics | µg/L | 74[#2] | | <10 | <10 | <10 | <1 | 4 | 0 | ND | 0 |
| >EC8-EC10 Aromatics | µg/L | | | <10 | <10 | <10 | - | 3 | 0 | ND | 0 |
| >EC8-EC9 Aromatics | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| >EC9-EC10 Aromatics | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| >EC10-EC12 Aromatics | µg/L | | | <10 | <10 | <10 | <5 | 4 | 0 | ND | 0 |
| >EC12-EC16 Aromatics | µg/L | | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >EC16-EC21 Aromatics | µg/L | | | <20 | <50 | <20 | <5 | 4 | 0 | ND | 0 |
| >EC21-EC35 Aromatics | µg/L | | | <20 | <50 | <20 | - | 3 | 0 | ND | 0 |
| >EC12-EC35 Aromatics | µg/L | | | <20 | <50 | <20 | - | 3 | 0 | ND | 0 |
| >C5-C35 Aliphatics & Aromatics | µg/L | | | <20 | <50 | <20 | - | 3 | 0 | ND | 0 |
| Total Aliphatics | µg/L | | | - | - | - | <5 | 1 | 0 | ND | 0 |
| Total Aromatics | µg/L | | | - | - | - | <5 | 1 | 0 | ND | 0 |
| TPH (Ali & Aro) | µg/L | | | - | - | - | <5 | 1 | 0 | ND | 0 |
| VOC | | | | | | | | | | | |
| 1,3,5-Trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#3] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Dichlorodifluoromethane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| MTBE | µg/L | 5,100[#4] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Chloromethane | µg/L | | | <1 | <1 | <1 | <10 | 4 | 0 | ND | 0 |
| Vinyl chloride | µg/L | 77[#4] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromomethane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Chloroethane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Trichlorofluoromethane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloroethene | µg/L | 9[#4] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Dichloromethane | µg/L | 20[#1] | | <3 | <3 | <3 | <5 | 4 | 0 | ND | 0 |
| trans-1,2-dichloroethene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloroethane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| cis-1,2-dichloroethene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 2,2-dichloropropane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromochloromethane | µg/L | | | <1 | <1 | <1 | <5 | 4 | 0 | ND | 0 |
| Chloroform | µg/L | 2.5[#1] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,1-trichloroethane | µg/L | 100[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Carbon tetrachloride | µg/L | 12[#1] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichloroethane | µg/L | 10[#1] | | <1 | <1 | <1 | <2 | 4 | 0 | ND | 0 |
| Benzene | µg/L | 10[#1] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Trichloroethene | µg/L | 10[#1] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichloropropane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Dibromomethane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromodichloromethane | µg/L | | | <1 | <1 | <1 | <10 | 4 | 0 | ND | 0 |
| cis-1,3-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Toluene | µg/L | 74[#2] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| trans-1,3-dichloropropene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,2-trichloroethane | µg/L | 400[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Tetrachloroethene | µg/L | 10[#1] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3-dichloropropane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Sum of PCE and TCE | µg/L | | | <2 | <2 | <2 | <2 | 4 | 0 | ND | 0 |
| Chlorodibromomethane | µg/L | | | <1 | <1 | <1 | <3 | 4 | 0 | ND | 0 |
| 1,2-dibromoethane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Chlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,1,2-tetrachloroethane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Ethylbenzene | µg/L | 20[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Xylene (m & p) | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Xylene Total | µg/L | 30[#5] | | <2 | <2 | <2 | <2 | 4 | 0 | ND | 0 |
| Xylene (o) | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Total BTEX | µg/L | | | <28 | <28 | <28 | - | 3 | 0 | ND | 0 |
| Styrene | µg/L | 50[#5] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromoform | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Isopropylbenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,1,2,2-tetrachloroethane | µg/L | 140[#2] | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Bromobenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2,3-trichloropropane | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| n-propylbenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 2-chlorotoluene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3,5-trimethylbenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 4-chlorotoluene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| tert-butylbenzene | µg/L | | | <1 | <1 | <1 | <2 | 4 | 0 | ND | 0 |
| 1,2,4-trimethylbenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| sec-butylbenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| p-isopropyltoluene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,3-dichlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,4-dichlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| n-butylbenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dichlorobenzene | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| 1,2-dibromo-3-chloropropane | µg/L | | | <1 | <1 | <1 | <2 | 4 | 0 | ND | 0 |
| 1,2,4-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#3] | | <0.01 | <0.01 | <0.02 | <3 | 4 | 0 | ND | 0 |
| Hexachlorobutadiene | µg/L | 0.6[#6] | | <0.01 | <0.01 | <0.02 | <1 | 4 | 0 | ND | 0 |
| 1,2,3-trichlorobenzene | µg/L | Refer to 'Trichlorobenzene (total)'[#3] | | <0.01 | <0.01 | <0.02 | <3 | 4 | 0 | ND | 0 |
| 1,2-Dichloroethene | µg/L | | | <2 | <2 | <2 | <2 | 4 | 0 | ND | 0 |
| Trihalomethanes | µg/L | | | <4 | <4 | <4 | <15 | 4 | 0 | ND | 0 |
| VOC TICs | µg/L | | | <10 | <10 | <10 | - | 3 | 0 | ND | 0 |
| Carbon disulfide | µg/L | | | <1 | <1 | <1 | <1 | 4 | 0 | ND | 0 |
| Hexachlorobenzene | µg/L | 0.05[#6] | | <0.01 | <0.01 | <0.02 | <1 | 4 | 0 | ND | 0 |
| Tert Amyl Methyl Ether | µg/L | 510[#4] | | <1 | <1 | <1 | - | 3 | 0 | ND | 0 |
| Trichlorobenzene (total) | µg/L | 0.4[#1] | | <0.03 | <0.03 | <0.06 | <6 | 4 | 0 | ND | 0 |
| PAH | | | | | | | | | | | |
| Naphthalene | µg/L | 2[#1] | | <1 - 0.0559 | <0.05 | <0.02 | <0.01 | 4 | 1 | 0.0559 | 0 |
| Acenaphthylene | µg/L | | | <1 - 0.066 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.066 | 0 |
| Acenaphthene | µg/L | | | <1 - 0.0486 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.0486 | 0 |
| Fluorene | µg/L | | | <1 - 0.0687 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.0687 | 0 |
| Phenanthrene | µg/L | | | <1 - 0.342 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.342 | 0 |
| Anthracene | µg/L | 0.1[#1] | | **<1 - 0.159** | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.159 | 1 |
| Fluoranthene | µg/L | 0.0063[#1] | | **<1 - 0.657** | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.657 | 1 |
| Pyrene | µg/L | | | <1 - 0.672 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.672 | 0 |
| Benz(a)anthracene | µg/L | | | <1 - 0.499 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.499 | 0 |
| Chrysene | µg/L | | | <1 - 0.669 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.669 | 0 |
| Benzo(a) pyrene | µg/L | 0.00017[#1] | | **<1 - 0.66** | <0.01 | <0.004 | <0.01 | 4 | 1 | 0.66 | 1 |
| Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#3] | | <1 - 0.402 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.402 | 0 |
| Dibenz(a,h)anthracene | µg/L | | | <1 - 0.0897 | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.0897 | 0 |
| Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | | **<1 - 0.488** | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.488 | 1 |
| Benzo(b)fluoranthene | µg/L | 0.017[#6] | | **<1 - 0.897** | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.897 | 1 |
| Benzo(k)fluoranthene | µg/L | 0.017[#6] | | **<1 - 0.333** | <0.025 | <0.01 | <0.01 | 4 | 1 | 0.333 | 1 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Benzo(b)&(k)fluoranthene | µg/L | | | 1.23 | <0.05 | <0.02 | <0.02 | 4 | 1 | 1.23 | 0 |
| PAHs (sum of 4) | µg/L | | | 2.12 | <0.1 | <0.04 | <0.04 | 4 | 1 | 2.12 | 0 |
| PAH 16 Total | µg/L | | | 6.11 | <0.41 | <0.164 | <0.01 | 4 | 1 | 6.11 | 0 |
| benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | 0.89 | <0.05 | <0.02 | <0.02 | 4 | 1 | 0.89 | 0 |
| Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | 0.66 | <0.01 | <0.004 | <0.01 | 4 | 1 | 0.66 | 0 |
| SVOC | | | | | | | | | | | |
| SVOC TICs | µg/L | | | <10 | <40 | <80 | - | 3 | 0 | ND | 0 |
| 2-chlorophenol | µg/L | 50[#5] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2-methylphenol | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2-nitrophenol | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4-dichlorophenol | µg/L | 4.2[#2] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4-dimethylphenol | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4,5-trichlorophenol | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,4,6-trichlorophenol | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 4-chloro-3-methylphenol | µg/L | 40[#5] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 4-methylphenol | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 4-nitrophenol | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Pentachlorophenol | µg/L | 0.4[#1] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Phenol | µg/L | 7.7[#2] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Phenol (Filtered) | µg/L | 7.7[#2] | | <2 | <2 | <2 | - | 3 | 0 | ND | 0 |
| 2-chloronaphthalene | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2-methylnaphthalene | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Bis(2-ethylhexyl) phthalate | µg/L | 1.3[#1] | | <2 | <8 | <16 | <10 | 4 | 0 | ND | 0 |
| Butyl benzyl phthalate | µg/L | 7.5[#2] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Di-n-butyl phthalate | µg/L | 8[#5] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Di-n-octyl phthalate | µg/L | 20[#5] | | <5 | <20 | <40 | <10 | 4 | 0 | ND | 0 |
| Diethylphthalate | µg/L | 200[#5] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Dimethyl phthalate | µg/L | 800[#5] | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2-nitroaniline | µg/L | | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| 3-nitroaniline | µg/L | | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| 4-bromophenyl phenyl ether | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 4-chloroaniline | µg/L | | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| 4-chlorophenyl phenyl ether | µg/L | | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| 4-nitroaniline | µg/L | | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| Azobenzene | µg/L | | | <1 | <4 | <8 | - | 3 | 0 | ND | 0 |
| Bis(2-chloroethoxy) methane | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Bis(2-chloroethyl)ether | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Carbazole | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Dibenzofuran | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Hexachlorocyclopentadiene | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Hexachloroethane | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Isophorone | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| N-nitrosodi-n-propylamine | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Perylene | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Cresol Total (Filtered) | µg/L | | | <6 | <6 | <6 | - | 3 | 0 | ND | 0 |
| Total Monohydric Phenols (S) Corrected (Filtered) | µg/L | | | <16 | <16 | <16 | - | 3 | 0 | ND | 0 |
| Xylenols (Filtered) | µg/L | | | <8 | <8 | <8 | - | 3 | 0 | ND | 0 |
| PCBs | | | | | | | | | | | |
| PCB 118 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 28 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 52 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 101 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 138 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 153 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| PCB 180 | µg/L | | | <0.03 | <0.075 | <0.03 | - | 3 | 0 | ND | 0 |
| Total PCB 7 Congeners | µg/L | | | <0.21 | <0.525 | <0.21 | - | 3 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Herbicides and Pesticides | | | | | | | | | | | |
| Permethrin I | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Aldrin | µg/L | Use Aldrin+Dieldrin+Endrin+Isodrin[#1] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| a-BHC | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| b-BHC | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Chlordane (cis) | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Dieldrin | µg/L | Use Aldrin+Dieldrin+Endrin+Isodrin[#1] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Endosulfan I | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Endosulfan II | µg/L | | | <0.02 | <0.02 | <0.02 | - | 3 | 0 | ND | 0 |
| Endosulfan sulphate | µg/L | | | <0.04 | <0.04 | <0.04 | - | 3 | 0 | ND | 0 |
| Endrin | µg/L | Use Aldrin+Dieldrin+Endrin+Isodrin[#1] | | <0.04 | <0.02 | <0.02 | - | 3 | 0 | ND | 0 |
| g-BHC (Lindane) | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Heptachlor | µg/L | | | <0.02 | <0.02 | <0.01 | - | 3 | 0 | ND | 0 |
| Heptachlor epoxide | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Isodrin | µg/L | Use Aldrin+Dieldrin+Endrin+Isodrin[#1] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| o,p''-DDE | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| 2,4-DDT | µg/L | | | <0.02 | <0.04 | <0.02 | - | 3 | 0 | ND | 0 |
| o,p''-Methoxychlor | µg/L | | | <0.02 | <0.02 | <0.01 | - | 3 | 0 | ND | 0 |
| o,p-DDD | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| 4,4-DDE | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| DDT | µg/L | 0.01[#1] | | <0.04 | <0.04 | <0.01 | - | 3 | 0 | ND | 0 |
| Methoxychlor | µg/L | | | <0.02 | <0.02 | <0.02 | - | 3 | 0 | ND | 0 |
| Pendimethalin | µg/L | 0.3[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Permethrin II | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Tecnazene | mg/L | 0.001[#5] | | <0.00001 | <0.00001 | <0.00002 | - | 3 | 0 | ND | 0 |
| Chlordane (trans) | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Triadimefon | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Triallate | µg/L | 0.25[#5] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Trifluralin | µg/L | 0.03[#1] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Aldrin + Dieldrin | µg/L | | | <0.02 | <0.02 | <0.02 | - | 3 | 0 | ND | 0 |
| d-BHC | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Azinphos Ethyl | µg/L | | | <0.02 | <0.02 | <0.04 | - | 3 | 0 | ND | 0 |
| Azinophos methyl | µg/L | 0.01[#5] | | <0.02 | <0.02 | <0.04 | - | 3 | 0 | ND | 0 |
| Carbophenothion | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Chlorfenvinphos | µg/L | 0.1[#1] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Chlorpyrifos | µg/L | 0.03[#1] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Chlorpyrifos-methyl | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Diazinon | µg/L | 0.01[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Dichlorvos | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Dimethoate | µg/L | 0.48[#2] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Ethion | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Parathion | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Fenitrothion | µg/L | 0.01[#5] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Fenthion | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Malathion | µg/L | 0.01[#5] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Methyl parathion | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Mevinphos (Phosdrin) | µg/L | 0.02[#7] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Phosalone | mg/L | | | <0.00001 | <0.00001 | <0.00002 | - | 3 | 0 | ND | 0 |
| Pirimiphos-methyl | µg/L | 0.015[#5] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Propetamphos | mg/L | 0.00003[#5] | | <0.00001 | <0.00001 | <0.00002 | - | 3 | 0 | ND | 0 |
| Triazophos | mg/L | 0.000005[#5] | | <0.00001 | <0.00001 | <0.00002 | - | 3 | 0 | ND | 0 |
| Disulfoton | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Phorate | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Demeton-S-methyl | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| Aldrin+Dieldrin+Endrin+Isodrin | µg/L | 0.01[#1] | | <0.07 | <0.05 | <0.05 | - | 3 | 0 | ND | 0 |
| Atrazine | µg/L | 0.6[#1] | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Simazine | µg/L | 1 [#1] | | <0.01 | <0.01 | 0.0449 | - | 3 | 1 | 0.0449 | 0 |
| Dichlobenil | µg/L | | | <0.01 | <0.01 | <0.02 | - | 3 | 0 | ND | 0 |
| p,p-DDT | µg/L | | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Explosives | | | | | | | | | | | |
| 2,4-Dinitrotoluene | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| 2,6-dinitrotoluene | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Nitrobenzene | µg/L | | | <1 | <4 | <8 | <1 | 4 | 0 | ND | 0 |
| Metals | | | | | | | | | | | |
| Antimony | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Antimony (Filtered) | µg/L | | | <1 | <1 | <1 | - | 3 | 0 | ND | 0 |
| Arsenic | µg/L | 50 [#2] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Arsenic (Filtered) | µg/L | 50 [#2] | | 1.27 | <0.5 | <0.5 | - | 3 | 1 | 1.27 | 0 |
| Beryllium | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Beryllium (Filtered) | µg/L | | | <0.1 | <0.1 | <0.1 | - | 3 | 0 | ND | 0 |
| Boron | µg/L | 2,000 [#5] | | - | - | - | 18 | 1 | 1 | 18 | 0 |
| Boron (Filtered) | µg/L | 2,000 [#5] | | 22.8 | 30.3 | 13.5 | - | 3 | 3 | 30.3 | 0 |
| Cadmium | µg/L | 0.08 [#1] | | - | - | - | <0.2 | 1 | 0 | ND | 0 |
| Cadmium (Filtered) | µg/L | 0.08 [#1] | | <0.08 | <0.08 | <0.08 | - | 3 | 0 | ND | 0 |
| Calcium | mg/L | | | - | - | - | 89 | 1 | 1 | 89 | 0 |
| Calcium (Filtered) | mg/L | | | 104 | 140 | 107 | - | 3 | 3 | 140 | 0 |
| Chromium (III+VI) | µg/L | | | - | - | - | 10 | 1 | 1 | 10 | 0 |
| Chromium (III+VI) (Filtered) | µg/L | | | <1 | <1 | <1 | - | 3 | 0 | ND | 0 |
| Copper | µg/L | 1 [#2] | | - | - | - | 10 | 1 | 1 | 10 | 1 |
| Copper (Filtered) | µg/L | 1 [#2] | | 0.391 | 0.519 | 0.579 | - | 3 | 3 | 0.579 | 0 |
| Iron (Filtered) | µg/L | 1,000 [#2] | | 48.6 | <19 | <19 | - | 3 | 1 | 48.6 | 0 |
| Lead | µg/L | 1.2 [#1] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Lead (Filtered) | µg/L | 1.2 [#1] | | <0.2 | <0.2 | <0.2 | - | 3 | 0 | ND | 0 |
| Magnesium | mg/L | | | - | - | - | 1 | 1 | 1 | 1 | 0 |
| Magnesium (Filtered) | mg/L | | | 1.31 | 2.39 | 1.52 | - | 3 | 3 | 2.39 | 0 |
| Manganese | µg/L | 123 [#2] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Manganese (Filtered) | µg/L | 123 [#2] | | 102 | 6.53 | <3 | - | 3 | 2 | 102 | 0 |
| Mercury | µg/L | 0.07 [#6] | | - | - | - | <0.1 | 1 | 0 | ND | 0 |
| Mercury (Filtered) | µg/L | 0.07 [#6] | | <0.01 | <0.01 | <0.01 | - | 3 | 0 | ND | 0 |
| Molybdenum | µg/L | | | - | - | - | <0.5 | 1 | 0 | ND | 0 |
| Molybdenum (Filtered) | µg/L | | | <3 | <3 | <3 | - | 3 | 0 | ND | 0 |
| Nickel | µg/L | 4 [#1] | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Nickel (Filtered) | µg/L | 4 [#1] | | 1.76 | 3.89 | 1.03 | - | 3 | 3 | 3.89 | 0 |
| Phosphorus (Filtered) | µg/L | See source document [#1] | | <10 | 31.2 | 27 | - | 3 | 2 | 31.2 | 0 |
| Selenium | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Selenium (Filtered) | µg/L | | | <1 | <1 | <1 | - | 3 | 0 | ND | 0 |
| Sodium | mg/L | | | - | - | - | 8 | 1 | 1 | 8 | 0 |
| Sodium (Filtered) | mg/L | | | 8.2 | 5.87 | 6.87 | - | 3 | 3 | 8.2 | 0 |
| Zinc | µg/L | 10.9 [#2] | | - | - | - | 1 | 1 | 1 | 1 | 0 |
| Zinc (Filtered) | µg/L | 10.9 [#2] | | 4.3 | 3 | 4.03 | - | 3 | 3 | 4.3 | 0 |
| Potassium | mg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Chromium (hexavalent) | µg/L | 3.4 [#2] | | - | - | - | <10 | 1 | 0 | ND | 0 |
| Chromium (hexavalent) (Filtered) | µg/L | 3.4 [#2] | | <30 | <30 | <30 | - | 3 | 0 | ND | 0 |
| Chromium (Trivalent) | µg/L | 4.7 [#2] | | - | - | - | 10 | 1 | 1 | 10 | 1 |
| Chromium (Trivalent) (Filtered) | µg/L | 4.7 [#2] | | <30 | <30 | <30 | - | 3 | 0 | ND | 0 |
| Inorganics | | | | | | | | | | | |
| Ammoniacal Nitrogen | mg/L | | | - | - | - | 0.05 | 1 | 1 | 0.05 | 0 |
| Cyanide (Free) | mg/L | 0.001 [#5] | | - | - | - | <0.005 | 1 | 0 | ND | 0 |
| Cyanide (Free) (Filtered) | mg/L | 0.001 [#5] | | <0.05 | <0.05 | <0.05 | - | 3 | 0 | ND | 0 |
| Cyanide Total | mg/L | 0.001 [#2] | | - | - | - | <0.005 | 1 | 0 | ND | 0 |
| Cyanide Total (Filtered) | mg/L | 0.001 [#2] | | <0.05 | <0.05 | <0.05 | - | 3 | 0 | ND | 0 |
| Fluoride (Filtered) | mg/L | 1 [#5] | | <0.5 | <0.5 | <0.5 | - | 3 | 0 | ND | 0 |

| | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 4 | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | CP72308A | CP72310 | CPES1 | R507A | | | | |
| | | | Date | 19/11/2020 | 25/11/2020 | 07/12/2020 | 26/04/2017 | | | | |
| | | | Sample Type | Normal | Normal | Normal | Normal | | | | |
| | | | Lab Report Number | 581261 | 581283 | 582769 | GIR_2017 | | | | |
| Sulphate | mg/L | 400[#5] | | - | - | - | 16 | 1 | 1 | 16 | 0 |
| Chloride | mg/L | 250[#5] | | - | - | - | 13.31 | 1 | 1 | 13.31 | 0 |
| Chloride (Filtered) | mg/L | 250[#5] | | 17.9 | 16.4 | 13.3 | - | 3 | 3 | 17.9 | 0 |
| Nitrate (as NO3-) | mg/L | | | - | - | - | 9.77 | 1 | 1 | 9.77 | 0 |
| Nitrate (as NO3-) (Filtered) | mg/L | | | 18.6 | 60.7 | 35.6 | - | 3 | 3 | 60.7 | 0 |
| Nitrite (as NO2-) | mg/L | | | - | - | - | <0.1 | 1 | 0 | ND | 0 |
| Nitrite (as NO2-) (Filtered) | mg/L | | | <0.05 | <0.05 | <0.05 | - | 3 | 0 | ND | 0 |
| Ortho Phosphate as PO4 (Filtered) | mg/L | | | <0.05 | 0.081 | 0.063 | - | 3 | 2 | 0.081 | 0 |
| Ortho Phosphate as P (Filtered) | mg/L | | | <0.02 | 0.0264 | 0.0206 | - | 3 | 2 | 0.0264 | 0 |
| Alkalinity (total) as CaCO3 | mg/L | | | 701 | 889 | 417 | - | 3 | 3 | 889 | 0 |
| Alkalinity (Carbonate as CaCO3) | mg/L | | | <2 | <2 | <2 | - | 3 | 0 | ND | 0 |
| Phosphorus total (P2O5) | mg/L | | | - | - | - | 0.036 | 1 | 1 | 0.036 | 0 |
| Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 701 | 889 | 417 | - | 3 | 3 | 889 | 0 |
| Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | | <0.2 | <0.2 | <0.2 | - | 3 | 0 | ND | 0 |
| Sulphate (soluble) (Filtered) | mg/L | | | 16.4 | 27.3 | 18.2 | - | 3 | 3 | 27.3 | 0 |
| TDS (Filtered) | mg/L | | | 350 | 465 | 390 | - | 3 | 3 | 465 | 0 |
| Other | | | | | | | | | | | |
| Electrical conductivity *(lab) | µS/cm | | | 445 | 571 | 490 | - | 3 | 3 | 571 | 0 |
| Dissolved Organic Carbon | mg/L | | | - | - | - | 1 | 1 | 1 | 1 | 0 |
| Dissolved Organic Carbon (Filtered) | mg/L | | | <3 | <3 | <3 | - | 3 | 0 | ND | 0 |
| pH (Lab) | pH_Units | | | 7.46 | 7.34 | 7.4 | - | 3 | 3 | 7.46 | 0 |
| Biological | | | | | | | | | | | |
| E coli | cfu/100ml | | | - | - | - | 0 | 1 | 1 | ND | 0 |
| Coliform | cfu/100 ml | | | - | - | - | 0 | 1 | 1 | ND | 0 |
| Dissolved Gases | | | | | | | | | | | |
| Dissolved Ethane (C2H6) SUBCON | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Dissolved Carbon Dioxide (CO2) | mg/L | | | - | - | - | 12.9 | 1 | 1 | 12.9 | 0 |
| Dissolved Ethene (C2H4) SUBCON | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Dissolved Methane (CH4) SUBCON | µg/L | | | - | - | - | 23 | 1 | 1 | 23 | 0 |
| Dissolved Propane (C3H8) | µg/L | | | - | - | - | <1 | 1 | 0 | ND | 0 |
| Field | | | | | | | | | | | |
| pH | pH_Units | | | - | - | - | 7.69 | 1 | 1 | 7.69 | 0 |
| Dissolved Oxygen | mg/L | | | - | 9.79 | 8.19 | 9.9 | 3 | 3 | 9.9 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#4:PNEC (EU REACH) - Freshwater
#5:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#6:WFD England/Wales. 2015 - MAC-EQS Inland
#7:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed

**Key**
XXX Exceedance of EC Protective of Surface Water

| | | | Monitoring Zone | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | SU04/Scotland | | | | |
| | | | Date | 29/08/2018 | 18/04/2019 | 16/07/2019 | 10/10/2019 | 16/01/2020 | 19/05/2020 | 04/08/2020 | 27/10/2020 | 25/01/2021 | 27/10/2020 | Statistical Summary | | | |
| Group | Determinand | Units | EC Protective of Groundwater | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | - | - | - | - | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 5 | 0 | ND | 0 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | <0.03 | <0.03 | <0.03 | - | - | - | - | - | 3 | 0 | ND | 0 |
| TPH | >C5-C6 Aliphatics | µg/L | 15.000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >C6-C8 Aliphatics | µg/L | 15.000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 21 | 10 | 1 | 21 | 0 |
| | >C8-C10 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 18 | 10 | 1 | 18 | 0 |
| | >C10-C12 Aliphatics | µg/L | 300[#1] | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C12-C16 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C16-C21 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C16-C35 Aliphatics | µg/L | 300[#1] | <20 | <20 | <20 | <20 | <20 | <20 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C21-C35 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 39 | 10 | 1 | 39 | 0 |
| | >EC5-EC7 Aromatics | µg/L | 1[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >EC7-EC8 Aromatics | µg/L | 700[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >EC8-EC10 Aromatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >EC10-EC12 Aromatics | µg/L | 90[#1] | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC12-EC16 Aromatics | µg/L | 90[#1] | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC16-EC21 Aromatics | µg/L | 90[#1] | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC21-EC35 Aromatics | µg/L | 90[#1] | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 39 | 10 | 1 | 39 | 0 |
| VOC | MTBE | µg/L | 1.800[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Benzene | µg/L | 1[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Toluene | µg/L | 700[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Ethylbenzene | µg/L | 300[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Xylene Total | µg/L | 500[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | Xylene (o) | µg/L | 190[#5] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| PAH | Naphthalene | µg/L | 6[#3] | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 10 | 0 | ND | 0 |
| | Acenaphthylene | µg/L | 18[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 10 | 0 | ND | 0 |
| | Acenaphthene | µg/L | 18[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 10 | 0 | ND | 0 |
| | Fluorene | µg/L | 12[#3] | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | 10 | 0 | ND | 0 |
| | Phenanthrene | µg/L | 4[#3] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 10 | 0 | ND | 0 |
| | Anthracene | µg/L | 90[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 10 | 0 | ND | 0 |
| | Fluoranthene | µg/L | 4[#4] | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | 10 | 0 | ND | 0 |
| | Pyrene | µg/L | 9[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 10 | 0 | ND | 0 |
| | Benz(a)anthracene | µg/L | 3.5[#3] | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 10 | 0 | ND | 0 |
| | Chrysene | µg/L | 7[#3] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 10 | 0 | ND | 0 |
| | Benzo(a) pyrene | µg/L | 0.01[#2] | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | 10 | 0 | ND | 0 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 10 | 0 | ND | 0 |
| | Dibenz(a,h)anthracene | µg/L | 0.07[#3] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 10 | 0 | ND | 0 |
| | Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | 10 | 0 | ND | 0 |
| | PAHs (sum of 4) | µg/L | 0.1[#2] | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | 10 | 0 | ND | 0 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | 10 | 0 | ND | 0 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | 10 | 0 | ND | 0 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | 10 | 0 | ND | 0 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | 10 | 0 | ND | 0 |
| PCBs | PCB 118 | µg/L | 0.004[#5] | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 28 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 52 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 101 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 138 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 153 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 180 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | Total PCB 7 Congeners | µg/L | | <0.7 | - | - | <0.7 | - | - | - | - | - | <0.7 | 3 | 0 | ND | 0 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Azinophos methyl | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Carbophenothion | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Chlorfenvinphos | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Chlorpyrifos | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Chlorpyrifos-methyl | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Diazinon | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Dichlorvos | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Dimethoate | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Ethion | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Parathion | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Etrimphos | mg/L | 0.0001[#2] | <0.00001 | - | - | <0.00003 | - | - | - | - | - | <0.00001 | 3 | 0 | ND | 0 |
| | Fenitrothion | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Fenthion | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Malathion | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Methyl parathion | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Mevinphos (Phosdrin) | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Phosalone | mg/L | 0.0001[#2] | <0.00001 | - | - | <0.00003 | - | - | - | - | - | <0.00001 | 3 | 0 | ND | 0 |

| | | | Monitoring Zone | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | SU04/Scotland | | | | |
| | | | Date | 29/08/2018 | 18/04/2019 | 16/07/2019 | 10/10/2019 | 16/01/2020 | 19/05/2020 | 04/08/2020 | 27/10/2020 | 25/01/2021 | 27/10/2020 | Statistical Summary | | | |
| Group | Determinand | Units | EC Protective of Groundwater | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| | Pirimiphos-methyl | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Propetamphos | mg/L | 0.0001[#2] | <0.00001 | - | - | <0.00003 | - | - | - | - | - | <0.00001 | 3 | 0 | ND | 0 |
| | Triazophos | mg/L | 0.0001[#2] | <0.00001 | - | - | <0.00003 | - | - | - | - | - | <0.00001 | 3 | 0 | ND | 0 |
| | Disulfoton | µg/L | 0.1[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| Metals | Antimony (Filtered) | µg/L | 5[#2] | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 10 | 0 | ND | 0 |
| | Arsenic (Filtered) | µg/L | 10[#2] | <2.5 | 3.9 | <2.5 | <2.5 | <2.5 | <2.5 | 3.5 | <2.5 | <2.5 | <2.5 | 10 | 2 | 3.9 | 0 |
| | Beryllium (Filtered) | µg/L | 12[#4] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 10 | 0 | ND | 0 |
| | Boron (Filtered) | µg/L | 1,000[#2] | <12 | <12 | <12 | <12 | <12 | <12 | 15 | 13 | <12 | <12 | 10 | 2 | 15 | 0 |
| | Cadmium | µg/L | 5[#2] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 10 | 0 | ND | 0 |
| | Cadmium (Filtered) | µg/L | 5[#2] | <0.5 | <0.03 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 10 | 0 | ND | 0 |
| | Calcium (Filtered) | mg/L | | 95.4 | 99.9 | 92.9 | 95.7 | 91.9 | 90 | 91.3 | 86 | 92 | 97 | 10 | 10 | 99.9 | 0 |
| | Chromium (III+VI) (Filtered) | µg/L | 50[#2] | <1.5 | <0.2 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | 10 | 0 | ND | 0 |
| | Copper | µg/L | 2,000[#2] | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | 10 | 0 | ND | 0 |
| | Copper (Filtered) | µg/L | 2,000[#2] | <7 | <3 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | 10 | 0 | ND | 0 |
| | Iron | µg/L | 200[#2] | **1099** | 65 | **1054** | **1818** | 42 | **276** | **362** | **1187** | **522** | 21 | 10 | 10 | 1818 | 7 |
| | Iron (Filtered) | µg/L | 200[#2] | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | 10 | 0 | ND | 0 |
| | Lead (Filtered) | µg/L | 10[#2] | <5 | <0.4 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Magnesium (Filtered) | mg/L | | 1.6 | 1.5 | 1.4 | 1.6 | 1.4 | 1.4 | 1.4 | 1.5 | 1.5 | 1.5 | 10 | 10 | 1.6 | 0 |
| | Mercury (Filtered) | µg/L | 1[#2] | <1 | <0.5 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 10 | 0 | ND | 0 |
| | Molybdenum (Filtered) | µg/L | 70[#4] | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 10 | 0 | ND | 0 |
| | Nickel (Filtered) | µg/L | 20[#2] | <2 | 0.6 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | **172** | 10 | 2 | 172 | 1 |
| | Phosphorus | µg/L | 0.4[#5] | **186** | **40** | **170** | **330** | **20** | **45** | **66** | **218** | **62** | **47** | 10 | 10 | 330 | 10 |
| | Phosphorus (Filtered) | µg/L | 0.4[#5] | **8** | **8** | **19** | **8** | **7** | <5 | **7** | **7** | **6** | <5 | 10 | 8 | 19 | 8 |
| | Selenium (Filtered) | µg/L | 10[#2] | <3 | <1.2 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | 10 | 0 | ND | 0 |
| | Sodium (Filtered) | mg/L | 200[#2] | 6.2 | 6.1 | 5.7 | 6.1 | 5.8 | 6 | 5.7 | 5.8 | 5.9 | 5.8 | 10 | 10 | 6.2 | 0 |
| | Zinc | µg/L | 6,000[#5] | 6 | <3 | 8 | 9 | <3 | 3 | 5 | 8 | 8 | 222 | 10 | 8 | 222 | 0 |
| | Zinc (Filtered) | µg/L | 6,000[#5] | <3 | 2.8 | 22 | <3 | <3 | 3 | 3 | 6 | 4 | 227 | 10 | 7 | 227 | 0 |
| | Potassium (Filtered) | mg/L | | 0.7 | 0.8 | 1.1 | 0.9 | 0.9 | 0.8 | 0.7 | 0.8 | 0.8 | 0.6 | 10 | 10 | 1.1 | 0 |
| | Chromium (hexavalent) | µg/L | Use Chromium (total)[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | 10 | 0 | ND | 0 |
| | Chromium (Trivalent) (Filtered) | µg/L | Use Chromium (total)[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | 10 | 0 | ND | 0 |
| Inorganics | Cyanide (Free) | mg/L | Use Cyanide Total[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Cyanide Total | mg/L | 0.05[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Fluoride | mg/L | 1.5[#2] | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 10 | 0 | ND | 0 |
| | Sulphate | mg/L | 250[#2] | 16.9 | 16.8 | 16.9 | 17.4 | 16.8 | 17.2 | 16.6 | 17.4 | 16.8 | 17.6 | 10 | 10 | 17.6 | 0 |
| | Chloride | mg/L | 250[#2] | 10.9 | 11.3 | 10.9 | 11.2 | 10.7 | 10.6 | 11.2 | 11.2 | 11.2 | 12.8 | 10 | 10 | 12.8 | 0 |
| | Nitrate (as NO3-) | mg/L | 50[#2] | 8.5 | 11.2 | 10.7 | 9.8 | 10.4 | 10.5 | 11 | 9.3 | 9.7 | 16.7 | 10 | 10 | 16.7 | 0 |
| | Nitrite (as NO2-) | mg/L | 0.5[#2] | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 10 | 0 | ND | 0 |
| | Alkalinity (total) as CaCO3 | mg/L | | 393 | 238 | 386 | 520 | 226 | 209 | 274 | 20,500 | 13,300 | 12,400 | 10 | 10 | 20500 | 0 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | 234 | 222 | 244 | 234 | 228 | 186 | 214 | 214 | 218 | 234 | 10 | 10 | 244 | 0 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <50 | <50 | <50 | 10 | 0 | ND | 0 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 393 | 238 | 386 | 520 | 226 | 209 | 274 | 20,500 | 13,300 | 12,400 | 10 | 10 | 20500 | 0 |
| | Ammoniacal Nitrogen as N | mg/L | | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.05 | 10 | 1 | 0.05 | 0 |
| | TDS | mg/L | | 300 | 274 | 316 | 287 | 281 | 300 | 303 - 320 | 309 | 280 | 348 | 10 | 10 | 348 | 0 |
| Other | Electrical conductivity *(lab) | µS/cm | | - | - | - | - | - | - | 485 | 466 | 490 | 527 | 4 | 4 | 527 | 0 |
| | Dissolved Organic Carbon | mg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 10 | 0 | ND | 0 |
| | pH (Lab) | pH_Units | | 7.8 | - | - | 7.67 | - | 8.1 | 7.81 | 7.7 | 7.7 | 7.7 | 7 | 7 | 8.1 | 0 |
| Field | Temp | oC | | - | - | - | - | - | - | 13.8 | - | - | - | 1 | 1 | 13.8 | 0 |
| | Dissolved Oxygen | mg/L | | - | - | - | - | - | - | 8.19 | - | - | - | 1 | 1 | 8.19 | 0 |
| MISC | Oxygen | mg/L | | 9 | 9 | 9 | 9 | 9 | 9 | 8 | - | - | - | 7 | 7 | 9 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:AECOM DWG (WHO method)
#4:WHO DWG 2017
#5:USEPA RSL (tapwater) [May 2020]
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Monitoring Zone** | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | | | | |
| | | | **Location** | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | SU04/Scotland | | | | |
| | | | **Date** | 29/08/2018 | 18/04/2019 | 16/07/2019 | 10/10/2019 | 16/01/2020 | 19/05/2020 | 04/08/2020 | 27/10/2020 | 25/01/2021 | 27/10/2020 | | | | |
| | | | EC Protective of Surface Water (EQS) | | | | | | | | | | | | | | |
| **Group** | **Determinand** | **Units** | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | - | - | - | - | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 5 | 0 | ND | 0 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | <0.03 | <0.03 | <0.03 | - | - | - | - | - | 3 | 0 | ND | 0 |
| TPH | >C5-C6 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >C6-C8 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 21 | 10 | 1 | 21 | 0 |
| | >C8-C10 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 18 | 10 | 1 | 18 | 0 |
| | >C10-C12 Aliphatics | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C12-C16 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C16-C21 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C16-C35 Aliphatics | µg/L | | <20 | <20 | <20 | <20 | <20 | <20 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C21-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 39 | 10 | 1 | 39 | 0 |
| | >EC5-EC7 Aromatics | µg/L | 10[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >EC7-EC8 Aromatics | µg/L | 74[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >EC8-EC10 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >EC10-EC12 Aromatics | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC12-EC16 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC16-EC21 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC21-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 39 | 10 | 1 | 39 | 0 |
| VOC | MTBE | µg/L | 5,100[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Benzene | µg/L | 10[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Toluene | µg/L | 74[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Ethylbenzene | µg/L | 20[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Xylene Total | µg/L | 30[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 10 | 0 | ND | 0 |
| | Xylene (o) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| PAH | Naphthalene | µg/L | 2[#1] | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 10 | 0 | ND | 0 |
| | Acenaphthylene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 10 | 0 | ND | 0 |
| | Acenaphthene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 10 | 0 | ND | 0 |
| | Fluorene | µg/L | | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | 10 | 0 | ND | 0 |
| | Phenanthrene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 10 | 0 | ND | 0 |
| | Anthracene | µg/L | 0.1[#1] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 10 | 0 | ND | 0 |
| | Fluoranthene | µg/L | 0.0063[#1] | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | 10 | 0 | ND | 0 |
| | Pyrene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 10 | 0 | ND | 0 |
| | Benz(a)anthracene | µg/L | | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 10 | 0 | ND | 0 |
| | Chrysene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 10 | 0 | ND | 0 |
| | Benzo(a) pyrene | µg/L | 0.00017[#1] | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | 10 | 0 | ND | 0 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 10 | 0 | ND | 0 |
| | Dibenz(a,h)anthracene | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 10 | 0 | ND | 0 |
| | Benzo(b)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Benzo(k)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | 10 | 0 | ND | 0 |
| | PAHs (sum of 4) | µg/L | | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | 10 | 0 | ND | 0 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | 10 | 0 | ND | 0 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | 10 | 0 | ND | 0 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | 10 | 0 | ND | 0 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | 10 | 0 | ND | 0 |
| PCBs | PCB 118 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 28 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 52 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 101 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 138 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 153 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | PCB 180 | µg/L | | <0.1 | - | - | <0.1 | - | - | - | - | - | <0.1 | 3 | 0 | ND | 0 |
| | Total PCB 7 Congeners | µg/L | | <0.7 | - | - | <0.7 | - | - | - | - | - | <0.7 | 3 | 0 | ND | 0 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Azinophos methyl | µg/L | 0.01[#4] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Carbophenothion | µg/L | | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Chlorfenvinphos | µg/L | 0.1[#1] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Chlorpyrifos | µg/L | 0.03[#1] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Chlorpyrifos-methyl | µg/L | | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Diazinon | µg/L | 0.01[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Dichlorvos | µg/L | | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Dimethoate | µg/L | 0.48[#2] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Ethion | µg/L | | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Parathion | µg/L | | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Etrimphos | mg/L | | <0.00001 | - | - | <0.00003 | - | - | - | - | - | <0.00001 | 3 | 0 | ND | 0 |
| | Fenitrothion | µg/L | 0.01[#4] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Fenthion | µg/L | | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Malathion | µg/L | 0.01[#4] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Monitoring Zone** | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | | | | |
| | | | **Location** | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | SU04/Scotland | | | | |
| | | | **Date** | 29/08/2018 | 18/04/2019 | 16/07/2019 | 10/10/2019 | 16/01/2020 | 19/05/2020 | 04/08/2020 | 27/10/2020 | 25/01/2021 | 27/10/2020 | | | | |
| | | | EC Protective of Surface Water (EQS) | | | | | | | | | | | | | | |
| **Group** | **Determinand** | **Units** | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| | Methyl parathion | µg/L | | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Mevinphos (Phosdrin) | µg/L | 0.02[#7] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Phosalone | mg/L | | <0.00001 | - | - | <0.00003 | - | - | - | - | - | <0.00001 | 3 | 0 | ND | 0 |
| | Pirimiphos-methyl | µg/L | 0.015[#4] | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| | Propetamphos | mg/L | 0.00003[#4] | <0.00001 | - | - | <0.00003 | - | - | - | - | - | <0.00001 | 3 | 0 | ND | 0 |
| | Triazophos | mg/L | 0.000005[#4] | <0.00001 | - | - | <0.00003 | - | - | - | - | - | <0.00001 | 3 | 0 | ND | 0 |
| | Disulfoton | µg/L | | <0.01 | - | - | <0.03 | - | - | - | - | - | <0.01 | 3 | 0 | ND | 0 |
| Metals | Antimony (Filtered) | µg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 10 | 0 | ND | 0 |
| | Arsenic (Filtered) | µg/L | 50[#2] | <2.5 | 3.9 | <2.5 | <2.5 | <2.5 | <2.5 | 3.5 | <2.5 | <2.5 | <2.5 | 10 | 2 | 3.9 | 0 |
| | Beryllium (Filtered) | µg/L | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 10 | 0 | ND | 0 |
| | Boron (Filtered) | µg/L | 2.000[#4] | <12 | <12 | <12 | <12 | <12 | <12 | 15 | 13 | <12 | <12 | 10 | 2 | 15 | 0 |
| | Cadmium | µg/L | 0.08[#1] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 10 | 0 | ND | 0 |
| | Cadmium (Filtered) | µg/L | 0.08[#1] | <0.5 | <0.03 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 10 | 0 | ND | 0 |
| | Calcium (Filtered) | mg/L | | 95.4 | 99.9 | 92.9 | 95.7 | 91.9 | 90 | 91.3 | 86.1 | 92.2 | 97.1 | 10 | 10 | 99.9 | 0 |
| | Chromium (III+VI) (Filtered) | µg/L | | <1.5 | <0.2 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | 10 | 0 | ND | 0 |
| | Copper | µg/L | 1[#2] | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | 10 | 0 | ND | 0 |
| | Copper (Filtered) | µg/L | 1[#2] | <7 | <3 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | 10 | 0 | ND | 0 |
| | Iron | µg/L | 1.000[#2] | 1099 | 65 | 1054 | 1818 | 42 | 276 | 362 | 1187 | 522 | 21 | 10 | 10 | 1818 | 4 |
| | Iron (Filtered) | µg/L | 1.000[#2] | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | 10 | 0 | ND | 0 |
| | Lead (Filtered) | µg/L | 1.2[#1] | <5 | <0.4 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 10 | 0 | ND | 0 |
| | Magnesium (Filtered) | mg/L | | 1.6 | 1.5 | 1.4 | 1.6 | 1.4 | 1.4 | 1.4 | 1.5 | 1.5 | 1.5 | 10 | 10 | 1.6 | 0 |
| | Mercury (Filtered) | µg/L | 0.07[#6] | <1 | <0.5 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 10 | 0 | ND | 0 |
| | Molybdenum (Filtered) | µg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 10 | 0 | ND | 0 |
| | Nickel (Filtered) | µg/L | 4[#1] | <2 | 0.6 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 172 | 10 | 2 | 172 | 1 |
| | Phosphorus | µg/L | See source document[#1] | 186 | 40 | 170 | 330 | 20 | 45 | 66 | 218 | 62 | 47 | 10 | 10 | 330 | 0 |
| | Phosphorus (Filtered) | µg/L | See source document[#1] | 8 | 8 | 19 | 8 | 7 | <5 | 7 | 7 | 6 | <5 | 10 | 8 | 19 | 0 |
| | Selenium (Filtered) | µg/L | | <3 | <1.2 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | 10 | 0 | ND | 0 |
| | Sodium (Filtered) | mg/L | | 6.2 | 6.1 | 5.7 | 6.1 | 5.8 | 6 | 5.7 | 5.8 | 5.9 | 5.8 | 10 | 10 | 6.2 | 0 |
| | Zinc | µg/L | 10.9[#2] | 6 | <3 | 8 | 9 | <3 | 3 | 5 | 8 | 8 | 222 | 10 | 8 | 222 | 1 |
| | Zinc (Filtered) | µg/L | 10.9[#2] | <3 | 2.8 | 22 | <3 | <3 | 3 | 3 | 6 | 4 | 227 | 10 | 7 | 227 | 2 |
| | Potassium (Filtered) | mg/L | | 0.7 | 0.8 | 1.1 | 0.9 | 0.9 | 0.8 | 0.7 | 0.8 | 0.8 | 0.6 | 10 | 10 | 1.1 | 0 |
| | Chromium (hexavalent) | µg/L | 3.4[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | 10 | 0 | ND | 0 |
| | Chromium (Trivalent) (Filtered) | µg/L | 4.7[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | 10 | 0 | ND | 0 |
| Inorganics | Cyanide (Free) | mg/L | 0.001[#4] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Cyanide Total | mg/L | 0.001[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 10 | 0 | ND | 0 |
| | Fluoride | mg/L | 1[#4] | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 10 | 0 | ND | 0 |
| | Sulphate | mg/L | 400[#4] | 16.9 | 16.8 | 16.9 | 17.4 | 16.8 | 17.2 | 16.6 | 17.4 | 16.9 | 17.6 | 10 | 10 | 17.6 | 0 |
| | Chloride | mg/L | 250[#4] | 10.9 | 11.3 | 10.9 | 11.2 | 10.7 | 10.6 | 11.2 | 11.2 | 11.2 | 12.8 | 10 | 10 | 12.8 | 0 |
| | Nitrate (as NO3-) | mg/L | | 8.5 | 11.2 | 10.7 | 9.8 | 10.4 | 10.5 | 11 | 9.3 | 9.7 | 16.7 | 10 | 10 | 16.7 | 0 |
| | Nitrite (as NO2-) | mg/L | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 10 | 0 | ND | 0 |
| | Alkalinity (total) as CaCO3 | mg/L | | 393 | 238 | 386 | 520 | 226 | 209 | 274 | 20,500 | 13,300 | 12,400 | 10 | 10 | 20500 | 0 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | 234 | 222 | 244 | 234 | 228 | 186 | 214 | 214 | 218 | 234 | 10 | 10 | 244 | 0 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <50 | <50 | <50 | 10 | 0 | ND | 0 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 393 | 238 | 386 | 520 | 226 | 209 | 274 | 20,500 | 13,300 | 12,400 | 10 | 10 | 20500 | 0 |
| | Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.05 | 10 | 1 | 0.05 | 0 |
| | TDS | mg/L | | 300 | 274 | 316 | 287 | 281 | 300 | 303 - 320 | 309 | 280 | 348 | 10 | 10 | 348 | 0 |
| Other | Electrical conductivity *(lab) | µS/cm | | - | - | - | - | - | - | 485 | 466 | 490 | 527 | 4 | 4 | 527 | 0 |
| | Dissolved Organic Carbon | mg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 10 | 0 | ND | 0 |
| | pH (Lab) | pH_Units | | 7.8 | - | - | 7.67 | - | 8.1 | 7.81 | 7.7 | 7.7 | 7.7 | 7 | 7 | 8.1 | 0 |
| Field | Temp | oC | | - | - | - | - | - | - | 13.8 | - | - | - | 1 | 1 | 13.8 | 0 |
| | Dissolved Oxygen | mg/L | | - | - | - | - | - | - | 8.19 | - | - | - | 1 | 1 | 8.19 | 0 |
| MISC | Oxygen | mg/L | | 9 | 9 | 9 | 9 | 9 | 9 | 8 | - | - | - | 7 | 7 | 9 | 0 |

| | | | Monitoring Zone | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | Area 1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | RX629 | SU04/Scotland | | | | |
| | | | Date | 29/08/2018 | 18/04/2019 | 16/07/2019 | 10/10/2019 | 16/01/2020 | 19/05/2020 | 04/08/2020 | 27/10/2020 | 25/01/2021 | 27/10/2020 | | | | |
| | | | EC Protective of Surface Water (EQS) | | | | | | | | | | | | | | |
| **Group** | **Determinand** | **Units** | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
#7:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL

**Key**
**XXX** Exceedance of EC Protective of Surface Water

| | | | Monitoring Zone | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX630 | SU04/Windmill | SU04/Windmill | W1 | W1 | W1 | W1 | W1 | W1 | W1 | W1 | W1 | | | | |
| | | | Date | 23/08/2018 | 20/10/2020 | 25/01/2021 | 15/04/2019 | 15/07/2019 | 08/10/2019 | 14/01/2020 | 14/05/2020 | 29/07/2020 | 31/07/2020 | 27/10/2020 | 22/01/2021 | Statistical Summary | | | |
| **Group** | **Determinand** | **Units** | EC Protective of Groundwater (DWS) | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | - | <0.03 | <0.03 | - | - | - | - | <0.03 | - | <0.03 | <0.03 | <0.03 | 6 | 0 | ND | 0 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | 0.24 | - | - | - | <0.03 | <0.03 | - | - | - | - | - | - | 3 | 1 | 0.24 | 0 |
| TPH | >C5-C6 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >C6-C8 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >C8-C10 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >C10-C12 Aliphatics | µg/L | 300[#1] | <5 | - | - | <5 | <5 | <5 | <5 | <5 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C12-C16 Aliphatics | µg/L | 300[#1] | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C16-C21 Aliphatics | µg/L | 300[#1] | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C16-C35 Aliphatics | µg/L | 300[#1] | <20 | - | - | <20 | <20 | <20 | <20 | <20 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C21-C35 Aliphatics | µg/L | 300[#1] | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >EC5-EC7 Aromatics | µg/L | 1[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >EC7-EC8 Aromatics | µg/L | 700[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >EC8-EC10 Aromatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >EC10-EC12 Aromatics | µg/L | 90[#1] | <5 | - | - | <5 | <5 | <5 | <5 | <5 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC12-EC16 Aromatics | µg/L | 90[#1] | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC16-EC21 Aromatics | µg/L | 90[#1] | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC21-EC35 Aromatics | µg/L | 90[#1] | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| VOC | MTBE | µg/L | 1,800[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Benzene | µg/L | 1[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Toluene | µg/L | 700[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Ethylbenzene | µg/L | 300[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Xylene Total | µg/L | 500[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | Xylene (o) | µg/L | 190[#5] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| PAH | Naphthalene | µg/L | 6[#3] | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 11 | 0 | ND | 0 |
| | Acenaphthylene | µg/L | 18[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 11 | 0 | ND | 0 |
| | Acenaphthene | µg/L | 18[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 11 | 0 | ND | 0 |
| | Fluorene | µg/L | 12[#3] | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | - | <0.014 | <0.014 | <0.014 | 11 | 0 | ND | 0 |
| | Phenanthrene | µg/L | 4[#3] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 11 | 0 | ND | 0 |
| | Anthracene | µg/L | 90[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 11 | 0 | ND | 0 |
| | Fluoranthene | µg/L | 4[#4] | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | - | <0.012 | <0.012 | <0.012 | 11 | 0 | ND | 0 |
| | Pyrene | µg/L | 9[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 11 | 0 | ND | 0 |
| | Benz(a)anthracene | µg/L | 3.5[#3] | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | 11 | 0 | ND | 0 |
| | Chrysene | µg/L | 7[#3] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 11 | 0 | ND | 0 |
| | Benzo(a) pyrene | µg/L | 0.01[#2] | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | 11 | 0 | ND | 0 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 11 | 0 | ND | 0 |
| | Dibenz(a,h)anthracene | µg/L | 0.07[#3] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 11 | 0 | ND | 0 |
| | Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | - | <0.018 | <0.018 | <0.018 | 11 | 0 | ND | 0 |
| | PAHs (sum of 4) | µg/L | 0.1[#2] | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | - | <0.042 | <0.042 | <0.042 | 11 | 0 | ND | 0 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | - | <0.195 | <0.195 | <0.195 | 11 | 0 | ND | 0 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | - | <0.022 | <0.022 | <0.022 | 11 | 0 | ND | 0 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | 11 | 0 | ND | 0 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | - | <0.15 | <0.15 | <0.15 | 11 | 0 | ND | 0 |
| PCBs | PCB 118 | µg/L | 0.004[#5] | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 28 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 52 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 101 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 138 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 153 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 180 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Total PCB 7 Congeners | µg/L | | <0.7 | <0.7 | <0.7 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Azinophos methyl | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Carbophenothion | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Chlorfenvinphos | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Chlorpyrifos | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Chlorpyrifos-methyl | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Diazinon | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Dichlorvos | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Dimethoate | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Ethion | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Parathion | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Etrimphos | mg/L | 0.0001[#2] | <0.00003 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Fenitrothion | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Fenthion | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Malathion | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Methyl parathion | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Mevinphos (Phosdrin) | µg/L | 0.1[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Phosalone | mg/L | 0.0001[#2] | <0.00003 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |

| | | | Monitoring Zone | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Statistical Summary | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX630 | SU04/Windmill | SU04/Windmill | W1 | W1 | W1 | W1 | W1 | W1 | W1 | W1 | W1 | | | | |
| | | | Date | 23/08/2018 | 20/10/2020 | 25/01/2021 | 15/04/2019 | 15/07/2019 | 08/10/2019 | 14/01/2020 | 14/05/2020 | 29/07/2020 | 31/07/2020 | 27/10/2020 | 22/01/2021 | | | | |
| **Group** | **Determinand** | **Units** | EC Protective of Groundwater (DWS) | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| | Pirimiphos-methyl | µg/L | **0.1**[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Propetamphos | mg/L | **0.0001**[#2] | <0.00003 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Triazophos | mg/L | **0.0001**[#2] | <0.00003 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Disulfoton | µg/L | **0.1**[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Metals | Antimony (Filtered) | µg/L | **5**[#2] | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | 11 | 0 | ND | 0 |
| | Arsenic (Filtered) | µg/L | **10**[#2] | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | - | <2.5 | <2.5 | <2.5 | 11 | 0 | ND | 0 |
| | Beryllium (Filtered) | µg/L | **12**[#4] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 11 | 0 | ND | 0 |
| | Boron (Filtered) | µg/L | **1.000**[#2] | 13 | 17 | 19 | <12 | <12 | <12 | <12 | <12 | - | <12 | <12 | <12 | 11 | 3 | 19 | 0 |
| | Cadmium | µg/L | **5**[#2] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 11 | 0 | ND | 0 |
| | Cadmium (Filtered) | µg/L | **5**[#2] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 11 | 0 | ND | 0 |
| | Calcium (Filtered) | mg/L | | 92.1 | 124.3 | 116.2 | 135.4 | 112.6 | 114 | 119.3 | 120.7 | - | 111.1 | 108.7 | 128.3 | 11 | 11 | 135.4 | 0 |
| | Chromium (III+VI) (Filtered) | µg/L | **50**[#2] | <1.5 | 3.2 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | - | <1.5 | <1.5 | <1.5 | 11 | 1 | 3.2 | 0 |
| | Copper | µg/L | **2.000**[#2] | <7 | <7 | <7 | <7 | 11 | <7 | 12 | <7 | - | <7 | <7 | <7 | 11 | 2 | 12 | 0 |
| | Copper (Filtered) | µg/L | **2.000**[#2] | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | - | <7 | <7 | <7 | 11 | 0 | ND | 0 |
| | Iron | µg/L | **200**[#2] | **1307** | 45 | <20 | 168 | **8930** | **4875** | **7961** | **5426** | - | **3310** | **2558** | **355** | 11 | 10 | 8930 | 8 |
| | Iron (Filtered) | µg/L | **200**[#2] | <20 | <20 | <20 | <20 | <20 | <20 | 52 | <20 | - | <20 | <20 | <20 | 11 | 1 | 52 | 0 |
| | Lead (Filtered) | µg/L | **10**[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Magnesium (Filtered) | mg/L | | 0.8 | 2.2 | 2.3 | 1.5 | 1.3 | 1.3 | 1.4 | 1.5 | - | 1.3 | 1.3 | 1.6 | 11 | 11 | 2.3 | 0 |
| | Mercury (Filtered) | µg/L | **1**[#2] | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <1 | <1 | <1 | 11 | 0 | ND | 0 |
| | Molybdenum (Filtered) | µg/L | **70**[#4] | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | 11 | 0 | ND | 0 |
| | Nickel (Filtered) | µg/L | **20**[#2] | <2 | 2 | <2 | <2 | <2 | 3 | <2 | <2 | - | <2 | <2 | <2 | 11 | 2 | 3 | 0 |
| | Phosphorus | µg/L | **0.4**[#5] | **194** | **33** | **6** | **71** | **1168** | **722** | **1360** | **744** | - | **511** | **455** | **56** | 11 | 11 | 1360 | 11 |
| | Phosphorus (Filtered) | µg/L | **0.4**[#5] | **10** | <5 | **9** | **9** | **9** | **6** | **18** | **12** | - | <5 | **6** | **8** | 11 | 9 | 18 | 9 |
| | Selenium (Filtered) | µg/L | **10**[#2] | <3 | 4 | <3 | <3 | <3 | <3 | <3 | <3 | - | <3 | <3 | <3 | 11 | 1 | 4 | 0 |
| | Sodium (Filtered) | mg/L | **200**[#2] | 7.2 | 8.7 | 7.7 | 59.4 | 33.3 | 30.9 | 57.6 | 56.1 | - | 31.3 | 31.9 | 54.8 | 11 | 11 | 59.4 | 0 |
| | Zinc | µg/L | **6.000**[#5] | 10 | 1441 | 343 | 4 | 55 | 35 | 57 | 31 | - | 26 | 17 | 11 | 11 | 11 | 1441 | 0 |
| | Zinc (Filtered) | µg/L | **6.000**[#5] | 5 | 1519 | 386 | 3 | <3 | 3 | 3 | <3 | - | 8 | 4 | 11 | 11 | 9 | 1519 | 0 |
| | Potassium (Filtered) | mg/L | | 0.4 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | - | 0.4 | 0.4 | 0.5 | 11 | 11 | 0.6 | 0 |
| | Chromium (hexavalent) | µg/L | **Use Chromium (total)**[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | 11 | 0 | ND | 0 |
| | Chromium (Trivalent) (Filtered) | µg/L | **Use Chromium (total)**[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | 11 | 0 | ND | 0 |
| Inorganics | Cyanide (Free) | mg/L | **Use Cyanide Total**[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Cyanide Total | mg/L | **0.05**[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Fluoride | mg/L | **1.5**[#2] | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | - | <0.0003 | <0.0003 | <0.0003 | 11 | 0 | ND | 0 |
| | Sulphate | mg/L | **250**[#2] | 7.8 | 23.1 | 21.4 | 13.9 | 5.9 | 5.6 | 24.8 | 15.4 | - | 5.4 | 4.4 | 21.6 | 11 | 11 | 24.8 | 0 |
| | Chloride | mg/L | **250**[#2] | 14 | 20 | 21.8 | 131.9 | 96 | 96.1 | 117.5 | 126.1 | - | 96.3 | 101.4 | 119.6 | 11 | 11 | 131.9 | 0 |
| | Nitrate (as NO3-) | mg/L | **50**[#2] | 20.3 | 48.1 | **57.1** | 25.7 | 22.3 | 23.4 | **56.6** | 24.8 | - | 27.1 | 24.3 | **52.4** | 11 | 11 | 57.1 | 3 |
| | Nitrite (as NO2-) | mg/L | **0.5**[#2] | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | - | <0.02 | <0.02 | <0.02 | 11 | 0 | ND | 0 |
| | Alkalinity (total) as CaCO3 | mg/L | | 481 | 12,800 | 11,600 | 226 | 2286 | 1917 | 2696 | 228 | - | 1167 | 50,500 | 18,500 | 11 | 11 | 50500 | 0 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | 270 | 230 | 230 | 218 | 256 | 236 | 230 | 228 | - | 208 | 198 | 206 | 11 | 11 | 270 | 0 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <1 | <50 | <50 | <1 | <1 | <1 | <1 | <1 | - | <1 | <50 | <50 | 11 | 0 | ND | 0 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 481 | 12,800 | 11,600 | 226 | 2286 | 1917 | 2696 | 228 | - | 1167 | 50,500 | 18,500 | 11 | 11 | 50500 | 0 |
| | Ammoniacal Nitrogen as N | mg/L | | 0.05 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | 11 | 1 | 0.05 | 0 |
| | TDS | mg/L | | 345 | 445 | 423 | 601 | 582 | 549 | 627 | 614 | 490 | 569 | 614 | 717 | 12 | 12 | 717 | 0 |
| Other | Electrical conductivity *(lab) | µS/cm | | - | 619 | 630 | - | - | - | - | - | - | 715 | 726 | 918 | 5 | 5 | 918 | 0 |
| | Dissolved Organic Carbon | mg/L | | <2 | <2 | 2 | <2 | <2 | - | <2 | <2 | - | 2 | <2 | <2 | 10 | 2 | 2 | 0 |
| | pH (Lab) | pH_Units | | 7.02 | 7.66 | 7.71 | 7.54 | - | 7.49 | - | 7.89 | - | 7.5 | 7.49 | 7.73 | 9 | 9 | 7.89 | 0 |
| Field | Temp | oC | | - | - | - | - | - | - | - | - | 15.39 | - | - | - | 1 | 1 | 15.39 | 0 |
| | Dissolved Oxygen | mg/L | | - | - | - | - | - | - | - | - | 9.29 | - | - | - | 1 | 1 | 9.29 | 0 |
| MISC | Oxygen | mg/L | | 10 | - | - | 10 | 9 | 9 | 9 | 10 | - | 10 | - | - | 7 | 7 | 10 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:AECOM DWG (WHO method)
#4:WHO DWG 2017
#5:USEPA RSL (tapwater) [May 2020]
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | | | Monitoring Zone | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX630 | SU04/Windmill | SU04/Windmill | W1 | W1 | W1 | W1 | W1 | W1 | W1 | W1 | W1 | | | | |
| | | | Date | 23/08/2018 | 20/10/2020 | 25/01/2021 | 15/04/2019 | 15/07/2019 | 08/10/2019 | 14/01/2020 | 14/05/2020 | 29/07/2020 | 31/07/2020 | 27/10/2020 | 22/01/2021 | Statistical Summary | | | |
| **Group** | **Determinand** | **Units** | EC Protective of Surface Water (EQS) | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | - | <0.03 | <0.03 | - | - | - | - | <0.03 | - | <0.03 | <0.03 | <0.03 | 6 | 0 | ND | 0 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | 0.24 | - | - | - | <0.03 | <0.03 | - | - | - | - | - | - | 3 | 1 | 0.24 | 0 |
| TPH | >C5-C6 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >C6-C8 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >C8-C10 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >C10-C12 Aliphatics | µg/L | | <5 | - | - | <5 | <5 | <5 | <5 | <5 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C12-C16 Aliphatics | µg/L | | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C16-C21 Aliphatics | µg/L | | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C16-C35 Aliphatics | µg/L | | <20 | - | - | <20 | <20 | <20 | <20 | <20 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C21-C35 Aliphatics | µg/L | | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >EC5-EC7 Aromatics | µg/L | 10[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >EC7-EC8 Aromatics | µg/L | 74[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >EC8-EC10 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >EC10-EC12 Aromatics | µg/L | | <5 | - | - | <5 | <5 | <5 | <5 | <5 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC12-EC16 Aromatics | µg/L | | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC16-EC21 Aromatics | µg/L | | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC21-EC35 Aromatics | µg/L | | <10 | - | - | <10 | <10 | <10 | <10 | <10 | - | - | - | - | 6 | 0 | ND | 0 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| VOC | MTBE | µg/L | 5,100[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Benzene | µg/L | 10[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Toluene | µg/L | 74[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Ethylbenzene | µg/L | 20[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Xylene Total | µg/L | 30[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 11 | 0 | ND | 0 |
| | Xylene (o) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| PAH | Naphthalene | µg/L | 2[#1] | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 11 | 0 | ND | 0 |
| | Acenaphthylene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 11 | 0 | ND | 0 |
| | Acenaphthene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 11 | 0 | ND | 0 |
| | Fluorene | µg/L | | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | - | <0.014 | <0.014 | <0.014 | 11 | 0 | ND | 0 |
| | Phenanthrene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 11 | 0 | ND | 0 |
| | Anthracene | µg/L | 0.1[#1] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 11 | 0 | ND | 0 |
| | Fluoranthene | µg/L | 0.0063[#1] | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | - | <0.012 | <0.012 | <0.012 | 11 | 0 | ND | 0 |
| | Pyrene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 11 | 0 | ND | 0 |
| | Benz(a)anthracene | µg/L | | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | 11 | 0 | ND | 0 |
| | Chrysene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 11 | 0 | ND | 0 |
| | Benzo(a) pyrene | µg/L | 0.00017[#1] | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | 11 | 0 | ND | 0 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 11 | 0 | ND | 0 |
| | Dibenz(a,h)anthracene | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 11 | 0 | ND | 0 |
| | Benzo(b)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Benzo(k)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | - | <0.018 | <0.018 | <0.018 | 11 | 0 | ND | 0 |
| | PAHs (sum of 4) | µg/L | | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | - | <0.042 | <0.042 | <0.042 | 11 | 0 | ND | 0 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | - | <0.195 | <0.195 | <0.195 | 11 | 0 | ND | 0 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | - | <0.022 | <0.022 | <0.022 | 11 | 0 | ND | 0 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | 11 | 0 | ND | 0 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | - | <0.15 | <0.15 | <0.15 | 11 | 0 | ND | 0 |
| PCBs | PCB 118 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 28 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 52 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 101 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 138 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 153 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | PCB 180 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Total PCB 7 Congeners | µg/L | | <0.7 | <0.7 | <0.7 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Azinophos methyl | µg/L | 0.01[#4] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Carbophenothion | µg/L | | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Chlorfenvinphos | µg/L | 0.1[#1] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Chlorpyrifos | µg/L | 0.03[#1] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Chlorpyrifos-methyl | µg/L | | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Diazinon | µg/L | 0.01[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Dichlorvos | µg/L | | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Dimethoate | µg/L | 0.48[#2] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Ethion | µg/L | | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Parathion | µg/L | | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Etrimphos | mg/L | | <0.00003 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Fenitrothion | µg/L | 0.01[#4] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Fenthion | µg/L | | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Malathion | µg/L | 0.01[#4] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Methyl parathion | µg/L | | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Mevinphos (Phosdrin) | µg/L | 0.02[#7] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Phosalone | mg/L | | <0.00003 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |

| | | | Monitoring Zone | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | Area 2 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX630 | SU04/Windmill | SU04/Windmill | W1 | W1 | W1 | W1 | W1 | W1 | W1 | W1 | W1 | | | | |
| | | | Date | 23/08/2018 | 20/10/2020 | 25/01/2021 | 15/04/2019 | 15/07/2019 | 08/10/2019 | 14/01/2020 | 14/05/2020 | 29/07/2020 | 31/07/2020 | 27/10/2020 | 22/01/2021 | Statistical Summary | | | |
| Group | Determinand | Units | EC Protective of Surface Water (EQS) | | | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| | Pirimiphos-methyl | µg/L | 0.015[#4] | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Propetamphos | mg/L | 0.00003[#4] | <0.00003 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Triazophos | mg/L | 0.000005[#4] | <0.00003 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| | Disulfoton | µg/L | | <0.03 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | - | 3 | 0 | ND | 0 |
| Metals | Antimony (Filtered) | µg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | 11 | 0 | ND | 0 |
| | Arsenic (Filtered) | µg/L | 50[#2] | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | - | <2.5 | <2.5 | <2.5 | 11 | 0 | ND | 0 |
| | Beryllium (Filtered) | µg/L | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 11 | 0 | ND | 0 |
| | Boron (Filtered) | µg/L | 2.000[#4] | 13 | 17 | 19 | <12 | <12 | <12 | <12 | <12 | - | <12 | <12 | <12 | 11 | 3 | 19 | 0 |
| | Cadmium | µg/L | 0.08[#1] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 11 | 0 | ND | 0 |
| | Cadmium (Filtered) | µg/L | 0.08[#1] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 11 | 0 | ND | 0 |
| | Calcium (Filtered) | mg/L | | 92.1 | 124.3 | 116.2 | 135.4 | 112.6 | 114 | 119.3 | 120.7 | - | 111.1 | 108.7 | 128.3 | 11 | 11 | 135.4 | 0 |
| | Chromium (III+VI) (Filtered) | µg/L | | <1.5 | 3.2 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | - | <1.5 | <1.5 | <1.5 | 11 | 1 | 3.2 | 0 |
| | Copper | µg/L | 1[#2] | <7 | <7 | <7 | <7 | **11** | <7 | **12** | <7 | - | <7 | <7 | <7 | 11 | 2 | 12 | 2 |
| | Copper (Filtered) | µg/L | 1[#2] | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | - | <7 | <7 | <7 | 11 | 0 | ND | 0 |
| | Iron | µg/L | 1.000[#2] | **1307** | 45 | <20 | 168 | **8930** | **4875** | **7961** | **5426** | - | **3310** | **2558** | 355 | 11 | 10 | 8930 | 7 |
| | Iron (Filtered) | µg/L | 1.000[#2] | <20 | <20 | <20 | <20 | <20 | <20 | 52 | <20 | - | <20 | <20 | <20 | 11 | 1 | 52 | 0 |
| | Lead (Filtered) | µg/L | 1.2[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 11 | 0 | ND | 0 |
| | Magnesium (Filtered) | mg/L | | 0.8 | 2.2 | 2.3 | 1.5 | 1.3 | 1.3 | 1.4 | 1.5 | - | 1.3 | 1.3 | 1.6 | 11 | 11 | 2.3 | 0 |
| | Mercury (Filtered) | µg/L | 0.07[#6] | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <1 | <1 | <1 | 11 | 0 | ND | 0 |
| | Molybdenum (Filtered) | µg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | 11 | 0 | ND | 0 |
| | Nickel (Filtered) | µg/L | 4[#1] | <2 | 2 | <2 | <2 | <2 | 3 | <2 | <2 | - | <2 | <2 | <2 | 11 | 2 | 3 | 0 |
| | Phosphorus | µg/L | See source document[#1] | 194 | 33 | 6 | 71 | 1168 | 722 | 1360 | 744 | - | 511 | 455 | 56 | 11 | 11 | 1360 | 0 |
| | Phosphorus (Filtered) | µg/L | See source document[#1] | 10 | <5 | 9 | 9 | 9 | 6 | 18 | 12 | - | <5 | 6 | 8 | 11 | 9 | 18 | 0 |
| | Selenium (Filtered) | µg/L | | <3 | 4 | <3 | <3 | <3 | <3 | <3 | <3 | - | <3 | <3 | <3 | 11 | 1 | 4 | 0 |
| | Sodium (Filtered) | mg/L | | 7.2 | 8.7 | 7.7 | 59.4 | 33.3 | 30.9 | 57.6 | 56.1 | - | 31.3 | 31.9 | 54.8 | 11 | 11 | 59.4 | 0 |
| | Zinc | µg/L | 10.9[#2] | 10 | **1441** | **343** | 4 | **55** | **35** | **57** | **31** | - | **26** | **17** | **11** | 11 | 11 | 1441 | 9 |
| | Zinc (Filtered) | µg/L | 10.9[#2] | 5 | **1519** | **386** | 3 | <3 | 3 | 3 | <3 | - | 8 | 4 | **11** | 11 | 9 | 1519 | 3 |
| | Potassium (Filtered) | mg/L | | 0.4 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | - | 0.4 | 0.4 | 0.5 | 11 | 11 | 0.6 | 0 |
| | Chromium (hexavalent) | µg/L | 3.4[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | 11 | 0 | ND | 0 |
| | Chromium (Trivalent) (Filtered) | µg/L | 4.7[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | 11 | 0 | ND | 0 |
| Inorganics | Cyanide (Free) | mg/L | 0.001[#4] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Cyanide Total | mg/L | 0.001[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 11 | 0 | ND | 0 |
| | Fluoride | mg/L | 1[#4] | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | - | <0.0003 | <0.0003 | <0.0003 | 11 | 0 | ND | 0 |
| | Sulphate | mg/L | 400[#4] | 7.8 | 23.1 | 21.4 | 13.9 | 5.9 | 5.6 | 24.8 | 15.4 | - | 5.4 | 4.4 | 21.6 | 11 | 11 | 24.8 | 0 |
| | Chloride | mg/L | 250[#4] | 14 | 20 | 21.8 | 131.9 | 96 | 96.1 | 117.5 | 126.1 | - | 96.3 | 101.4 | 119.6 | 11 | 11 | 131.9 | 0 |
| | Nitrate (as NO3-) | mg/L | | 20.3 | 48.1 | 57.1 | 25.7 | 22.3 | 23.4 | 56.6 | 24.8 | - | 27.1 | 24.3 | 52.4 | 11 | 11 | 57.1 | 0 |
| | Nitrite (as NO2-) | mg/L | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | - | <0.02 | <0.02 | <0.02 | 11 | 0 | ND | 0 |
| | Alkalinity (total) as CaCO3 | mg/L | | 481 | 12,800 | 11,600 | 226 | 2286 | 1917 | 2696 | 228 | - | 1167 | 50,500 | 18,500 | 11 | 11 | 50500 | 0 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | 270 | 230 | 230 | 218 | 256 | 236 | 230 | 228 | - | 208 | 198 | 206 | 11 | 11 | 270 | 0 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <1 | <50 | <50 | <1 | <1 | <1 | <1 | <1 | - | <1 | <50 | <50 | 11 | 0 | ND | 0 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 481 | 12,800 | 11,600 | 226 | 2286 | 1917 | 2696 | 228 | - | 1167 | 50,500 | 18,500 | 11 | 11 | 50500 | 0 |
| | Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | 0.05 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | 11 | 1 | 0.05 | 0 |
| | TDS | mg/L | | 345 | 445 | 423 | 601 | 582 | 549 | 627 | 614 | 490 | 569 | 614 | 717 | 12 | 12 | 717 | 0 |
| Other | Electrical conductivity *(lab) | µS/cm | | - | 619 | 630 | - | - | - | - | - | - | 715 | 726 | 918 | 5 | 5 | 918 | 0 |
| | Dissolved Organic Carbon | mg/L | | <2 | <2 | 2 | <2 | <2 | - | <2 | <2 | - | 2 | <2 | <2 | 10 | 2 | 2 | 0 |
| | pH (Lab) | pH_Units | | 7.02 | 7.66 | 7.71 | 7.54 | - | 7.49 | - | 7.89 | - | 7.5 | 7.49 | 7.73 | 9 | 9 | 7.89 | 0 |
| Field | Temp | oC | | - | - | - | - | - | - | - | - | 15.39 | - | - | - | 1 | 1 | 15.39 | 0 |
| | Dissolved Oxygen | mg/L | | - | - | - | - | - | - | - | - | 9.29 | - | - | - | 1 | 1 | 9.29 | 0 |
| MISC | Oxygen | mg/L | | 10 | - | - | 10 | 9 | 9 | 9 | 10 | - | 10 | - | - | 7 | 7 | 10 | 0 |

**Env Stds Comments**

#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
#7:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**

**XXX** Exceedance of EC Protective of Surface Water

| | | | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 |
| | | | Date | 18/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 18/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 | 06/08/2020 | 23/10/2020 | 18/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 17/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 |
| **Group** | **Determinand** | **Units** | EC Protective of Groundwater (DWS) | | | | | | | | | | | | | | | | | | |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | - | - | - | - | - | - | - | <0.03 | - | <0.03 | - | - | - | - | - | - | - | <0.03 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | <0.06 | - | <0.06 | <0.03 | - | <0.03 | - | - | - | - | <0.06 | <0.06 | <0.06 | - | - | - | - | - |
| TPH | >C5-C6 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C6-C8 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C8-C10 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C10-C12 Aliphatics | µg/L | 300[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | >C12-C16 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C16-C21 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C16-C35 Aliphatics | µg/L | 300[#1] | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | - | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| | >C21-C35 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC7 Aromatics | µg/L | 1[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC7-EC8 Aromatics | µg/L | 700[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC8-EC10 Aromatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC10-EC12 Aromatics | µg/L | 90[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | >EC12-EC16 Aromatics | µg/L | 90[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC16-EC21 Aromatics | µg/L | 90[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC21-EC35 Aromatics | µg/L | 90[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| VOC | MTBE | µg/L | 1,800[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Benzene | µg/L | 1[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Toluene | µg/L | 700[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Ethylbenzene | µg/L | 300[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene Total | µg/L | 500[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | Xylene (o) | µg/L | 190[#5] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| PAH | Naphthalene | µg/L | 6[#3] | <0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| | Acenaphthylene | µg/L | 18[#3] | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Acenaphthene | µg/L | 18[#3] | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | - | <0.013 | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluorene | µg/L | 12[#3] | <0.042 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | - | <0.014 | <0.042 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 |
| | Phenanthrene | µg/L | 4[#3] | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | - | <0.011 | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Anthracene | µg/L | 90[#3] | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluoranthene | µg/L | 4[#4] | <0.036 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | - | <0.012 | <0.036 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| | Pyrene | µg/L | 9[#3] | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Benz(a)anthracene | µg/L | 3.5[#3] | <0.045 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.045 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 |
| | Chrysene | µg/L | 7[#3] | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(a) pyrene | µg/L | 0.01[#2] | <0.048 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.048 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Dibenz(a,h)anthracene | µg/L | 0.07[#3] | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.054 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | - | <0.018 | <0.054 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 |
| | PAHs (sum of 4) | µg/L | 0.1[#2] | <0.126 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | - | <0.042 | <0.126 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 |
| | PAH 16 Total | µg/L | | <0.585 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | - | <0.195 | <0.585 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.066 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | - | <0.022 | <0.066 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.048 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.048 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | - | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 |
| PCBs | PCB 118 | µg/L | 0.004[#5] | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 28 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 52 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 101 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 138 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 153 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 180 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | Total PCB 7 Congeners | µg/L | | <0.7 | <0.7 | <0.7 | - | - | <0.7 | - | - | - | - | <0.7 | <0.7 | <0.7 | - | - | <0.7 | - | - |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Azinophos methyl | µg/L | 0.1[#2] | <0.05 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.05 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Carbophenothion | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Chlorfenvinphos | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Chlorpyrifos | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Chlorpyrifos-methyl | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Diazinon | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Dichlorvos | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Dimethoate | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Ethion | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Parathion | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Etrimphos | mg/L | 0.0001[#2] | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - |
| | Fenitrothion | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Fenthion | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Malathion | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Methyl parathion | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Mevinphos (Phosdrin) | µg/L | 0.1[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Phosalone | mg/L | 0.0001[#2] | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - |

| | | | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 |
| | | | Date | 18/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 18/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 | 06/08/2020 | 23/10/2020 | 18/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 17/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 |
| **Group** | **Determinand** | **Units** | EC Protective of Groundwater (DWS) | | | | | | | | | | | | | | | | | | |
| | Pirimiphos-methyl | µg/L | **0.1**[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Propetamphos | mg/L | **0.0001**[#2] | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - |
| | Triazophos | mg/L | **0.0001**[#2] | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - |
| | Disulfoton | µg/L | **0.1**[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| Metals | Antimony (Filtered) | µg/L | **5**[#2] | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Arsenic (Filtered) | µg/L | **10**[#2] | <2.5 | 2.8 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | - | 2.8 | <2.5 | 2.7 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 |
| | Beryllium (Filtered) | µg/L | **12**[#4] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Boron (Filtered) | µg/L | **1,000**[#2] | <12 | <12 | <12 | <12 | <12 | <12 | <12 | 15 | - | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 |
| | Cadmium | µg/L | **5**[#2] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Cadmium (Filtered) | µg/L | **5**[#2] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Calcium (Filtered) | mg/L | | 114.2 | 104.4 | 107.1 | 117.4 | 109.7 | 100.2 | 117.8 | 118 | - | 98.9 | 96.1 | 102.3 | 101.1 | 100.2 | 104.4 | 100.8 | 102.7 | 100.7 |
| | Chromium (III+VI) (Filtered) | µg/L | **50**[#2] | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | - | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 |
| | Copper | µg/L | **2,000**[#2] | 123 | 81 | 62 | 14 | 25 | 17 | 15 | <7 | - | 41 | 40 | 40 | 75 | 7 | 16 | 16 | 15 | <7 |
| | Copper (Filtered) | µg/L | **2,000**[#2] | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | - | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 |
| | Iron | µg/L | **200**[#2] | **61,910** | **43,110** | **30,130** | **5948** | **9630** | **7761** | **6746** | **2362** | - | **24,770** | **18,360** | **21,180** | **39,540** | **2658** | **7010** | **8118** | **8744** | **2156** |
| | Iron (Filtered) | µg/L | **200**[#2] | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| | Lead (Filtered) | µg/L | **10**[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Magnesium (Filtered) | mg/L | | 3 | 3.4 | 2.6 | 2.2 | 2.8 | 2.9 | 1.8 | 3.1 | - | 2.9 | 1.8 | 1.6 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.3 |
| | Mercury (Filtered) | µg/L | **1**[#2] | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Molybdenum (Filtered) | µg/L | **70**[#4] | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Nickel (Filtered) | µg/L | **20**[#2] | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Phosphorus | µg/L | **0.4**[#5] | **3925** | **2859** | **2114** | **587** | **798** | **727** | **694** | **255** | - | **2492** | **1287** | **3081** | **3804** | **424** | **2213** | **1727** | **1210** | **414** |
| | Phosphorus (Filtered) | µg/L | **0.4**[#5] | **10** | <5 | <5 | **5** | <5 | **9** | **75** | <5 | - | <5 | **7** | **14** | **6** | **7** | **6** | **10** | **6** | **6** |
| | Selenium (Filtered) | µg/L | **10**[#2] | <3 | <3 | <3 | <3 | <3 | <3 | <3 | - | - | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| | Sodium (Filtered) | mg/L | **200**[#2] | 6.2 | 5.9 | 6.2 | 6.5 | 6.3 | 6.2 | 6 | 6.6 | - | 6.0999999046 | 7.6 | 7.3 | 7.8 | 7.7 | 7.7 | 7.5 | 7.8 | 7.6 |
| | Zinc | µg/L | **6,000**[#5] | 238 | 160 | 121 | 31 | 61 | 40 | 35 | 13 | - | 108 | 73 | 101 | 177 | 22 | 54 | 48 | 47 | 14 |
| | Zinc (Filtered) | µg/L | **6,000**[#5] | <3 | <3 | <3 | <3 | 13 | <3 | <3 | <3 | - | <3 | 3 | <3 | <3 | 5 | 4 | <3 | <3 | <3 |
| | Potassium (Filtered) | mg/L | | 0.5 | 0.5 | 0.7 | 0.3 | 0.5 | 0.5 | 0.3 | 0.4 | - | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 | 0.6 |
| | Chromium (hexavalent) | µg/L | **Use Chromium (total)**[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| | Chromium (Trivalent) (Filtered) | µg/L | **Use Chromium (total)**[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| Inorganics | Cyanide (Free) | mg/L | **Use Cyanide Total**[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Cyanide Total | mg/L | **0.05**[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Fluoride | mg/L | **1.5**[#2] | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | - | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| | Sulphate | mg/L | **250**[#2] | 32.5 | 17 | 12.7 | 17.1 | 12.1 | 10.3 | 33.3 | 26.4 | - | 16.3 | 16.2 | 14.2 | 13.4 | 13 | 13.2 | 13.3 | 14 | 13.1 |
| | Chloride | mg/L | **250**[#2] | 21.6 | 23.6 | 24.4 | 23.5 | 22.4 | 20.7 | 21 | 21.6 | - | 21.6 | 17.9 | 20.1 | 18.5 | 19.2 | 18.4 | 18.7 | 18.1 | 18.7 |
| | Nitrate (as NO3-) | mg/L | **50**[#2] | **63.8** | **53.8** | **81.5** | **95.9** | 35.7 | **52.3** | **62.5** | **69.4** | - | 49.6 | 38.2 | 3.5 | 35.5 | 34.3 | 34.2 | 35.7 | 35.1 | 35.8 |
| | Nitrite (as NO2-) | mg/L | **0.5**[#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 |
| | Alkalinity (total) as CaCO3 | mg/L | | 2549 | 2802 | 2196 | 628 | 830 | 1046 | 790 | 334 | - | 125,500 | 1004 | 2454 | 2963 | 514 | 2203 | 1695 | 982 | 278 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | 194 | - | 216 | 204 | 218 | 216 | 212 | 192 | - | 202 | 192 | - | 226 | 216 | 236 | 234 | 202 | 236 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <50 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 2549 | 2802 | 2196 | 628 | 830 | 1046 | 790 | 334 | - | 125,500 | 1004 | 2454 | 2963 | 514 | 2203 | 1695 | 982 | 278 |
| | Ammoniacal Nitrogen as N | mg/L | | <0.03 | 0.03 | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| | TDS | mg/L | | 569 | 415 | 446 | 542 | 448 | 388 | 477 | 465 | 380 | 440 | 362 | 379 | 361 | 390 | 373 | 370 | 405 | 349 |
| Other | Electrical conductivity *(lab) | µS/cm | | - | - | - | - | - | - | - | - | - | 525 | - | - | - | - | - | - | - | - |
| | Dissolved Organic Carbon | mg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 2 | - | <2 | <2 | <2 | <2 | <2 | <2 | 3 | <2 | <2 |
| | pH (Lab) | pH_Units | | 6.95 | 6.77 | 7.21 | 7.47 | 7.42 | 7.53 | - | 7.84 | - | 7.67 | 7.01 | 6.83 | 7.21 | 7.51 | - | 7.43 | 7.36 | 7.48 |
| Field | Temp | oC | | - | - | - | - | - | - | - | - | 13.98 | - | - | - | - | - | - | - | - | - |
| | Dissolved Oxygen | mg/L | | - | - | - | - | - | - | - | - | 8.45 | - | - | - | - | - | - | - | - | - |
| MISC | Oxygen | mg/L | | 11 | 10 | 10 | 9 | 9 | 9 | 11 | 9 | - | - | 10 | 10 | 10 | 9 | 10 | 9 | 10 | 9 |

**Env Stds Comments**

#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:AECOM DWG (WHO method)
#4:WHO DWG 2017
#5:USEPA RSL (tapwater) [May 2020]
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**

**XXX** Exceedance of EC Protective of Groundwater

| | | | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | PX506 | PX506 | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | RX633 | RX633 | RX633 | RX633 | RX633 | RX633 |
| | | | Date | 04/08/2020 | 23/10/2020 | 11/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 17/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 | 06/08/2020 | 23/10/2020 | 23/08/2018 | 18/04/2019 | 11/07/2019 | 09/10/2019 | 15/01/2020 | 15/05/2020 |
| **Group** | **Determinand** | **Units** | EC Protective of Groundwater (DWS) | | | | | | | | | | | | | | | | | | |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | <0.03 | <0.03 | - | - | - | - | - | - | - | <0.03 | - | <0.03 | - | - | - | - | - | <0.03 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | <0.06 | <0.06 | <0.06 | - | <0.03 | - | - | - | - | - | 0.14 | - | <0.03 | <0.03 | - | - |
| TPH | >C5-C6 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C6-C8 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C8-C10 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C10-C12 Aliphatics | µg/L | 300[#1] | - | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | <5 | <5 | <5 | <5 | <5 | <5 |
| | >C12-C16 Aliphatics | µg/L | 300[#1] | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C16-C21 Aliphatics | µg/L | 300[#1] | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C16-C35 Aliphatics | µg/L | 300[#1] | - | - | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | - | <20 | <20 | <20 | <20 | <20 | <20 |
| | >C21-C35 Aliphatics | µg/L | 300[#1] | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC7 Aromatics | µg/L | 1[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC7-EC8 Aromatics | µg/L | 700[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC8-EC10 Aromatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC10-EC12 Aromatics | µg/L | 90[#1] | - | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | <5 | <5 | <5 | <5 | <5 | <5 |
| | >EC12-EC16 Aromatics | µg/L | 90[#1] | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC16-EC21 Aromatics | µg/L | 90[#1] | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC21-EC35 Aromatics | µg/L | 90[#1] | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| VOC | MTBE | µg/L | 1,800[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Benzene | µg/L | 1[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Toluene | µg/L | 700[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Ethylbenzene | µg/L | 300[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene Total | µg/L | 500[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | Xylene (o) | µg/L | 190[#5] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| PAH | Naphthalene | µg/L | 6[#3] | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| | Acenaphthylene | µg/L | 18[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Acenaphthene | µg/L | 18[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | - | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluorene | µg/L | 12[#3] | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | - | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 |
| | Phenanthrene | µg/L | 4[#3] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | - | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Anthracene | µg/L | 90[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluoranthene | µg/L | 4[#4] | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | - | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| | Pyrene | µg/L | 9[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Benz(a)anthracene | µg/L | 3.5[#3] | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 |
| | Chrysene | µg/L | 7[#3] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(a) pyrene | µg/L | 0.01[#2] | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Dibenz(a,h)anthracene | µg/L | 0.07[#3] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | - | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 |
| | PAHs (sum of 4) | µg/L | 0.1[#2] | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | - | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | - | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | - | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | - | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 |
| PCBs | PCB 118 | µg/L | 0.004[#5] | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 28 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 52 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 101 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 138 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 153 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 180 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | Total PCB 7 Congeners | µg/L | | - | - | <0.7 | <0.7 | <0.7 | - | - | <0.7 | - | - | - | - | <0.7 | - | - | - | <0.7 | - |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Azinophos methyl | µg/L | 0.1[#2] | - | - | <0.02 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Carbophenothion | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Chlorfenvinphos | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Chlorpyrifos | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Chlorpyrifos-methyl | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Diazinon | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Dichlorvos | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Dimethoate | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Ethion | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Parathion | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Etrimphos | mg/L | 0.0001[#2] | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00003 | - | - | - | <0.00001 | - |
| | Fenitrothion | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Fenthion | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Malathion | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Methyl parathion | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Mevinphos (Phosdrin) | µg/L | 0.1[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Phosalone | mg/L | 0.0001[#2] | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00003 | - | - | - | <0.00001 | - |

| Group | Determinand | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Location | PX506 | PX506 | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | RX633 | RX633 | RX633 | RX633 | RX633 | RX633 |
| | | | | Date | 04/08/2020 | 23/10/2020 | 11/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 17/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 | 06/08/2020 | 23/10/2020 | 23/08/2018 | 18/04/2019 | 11/07/2019 | 09/10/2019 | 15/01/2020 | 15/05/2020 |
| | Pirimiphos-methyl | µg/L | 0.1 #2 | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Propetamphos | mg/L | 0.0001 #2 | | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00003 | - | - | - | <0.00001 | - |
| | Triazophos | mg/L | 0.0001 #2 | | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00003 | - | - | - | <0.00001 | - |
| | Disulfoton | µg/L | 0.1 #2 | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| Metals | Antimony (Filtered) | µg/L | 5 #2 | | <2 | <2 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Arsenic (Filtered) | µg/L | 10 #2 | | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | - | <2.5 | <2.5 | 6.2 | <2.5 | <2.5 | <2.5 | <2.5 |
| | Beryllium (Filtered) | µg/L | 12 #4 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Boron (Filtered) | µg/L | 1,000 #2 | | 16 | 16 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | - | <12 | 31 | 12 | 24 | 23 | 13 | 17 |
| | Cadmium | µg/L | 5 #2 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Cadmium (Filtered) | µg/L | 5 #2 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.03 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Calcium (Filtered) | mg/L | | | 99.4 | 96.2 | 107.9 | 92.5 | 94.4 | 100.3 | 96.8 | 94.9 | 107.7 | 100 | - | 87.8 | 110.3 | 103.9 | 103.8 | 106.2 | 95.4 | 94.3 |
| | Chromium (III+VI) (Filtered) | µg/L | 50 #2 | | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | - | 1.6000000238 | <1.5 | <0.2 | <1.5 | <1.5 | <1.5 | <1.5 |
| | Copper | µg/L | 2,000 #2 | | 8 | 15 | 15 | 146 | 78 | <7 | 104 | 28 | 62 | <7 | - | 28 | 10 | <7 | 8 | 10 | <7 | <7 |
| | Copper (Filtered) | µg/L | 2,000 #2 | | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | - | <7 | <7 | <3 | <7 | <7 | <7 | <7 |
| | Iron | µg/L | 200 #2 | | 3229 | 9779 | 4903 | 78,670 | 38,080 | 1848 | 48,050 | 21,530 | 51,310 | 2918 | - | 16,490 | 5870 | 2464 | 4192 | 5839 | 4339 | 1897 |
| | Iron (Filtered) | µg/L | 200 #2 | | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | 30 | <20 | - | <20 | <20 | <20 | <20 | 45 | <20 | <20 |
| | Lead (Filtered) | µg/L | 10 #2 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <0.4 | <5 | <5 | <5 | <5 |
| | Magnesium (Filtered) | mg/L | | | 1.4 | 1.4 | 3.8 | 3.7 | 2.5 | 2 | 3.2 | 2.7 | 2.5 | 2.3 | - | 2.4 | 1.3 | 1.4 | 1.3 | 1.3 | 1.4 | 1.3 |
| | Mercury (Filtered) | µg/L | 1 #2 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <1 | <1 | <0.5 | <1 | <1 | <1 | <1 |
| | Molybdenum (Filtered) | µg/L | 70 #4 | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Nickel (Filtered) | µg/L | 20 #2 | | <2 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | 0.3 | <2 | 4 | <2 | <2 |
| | Phosphorus | µg/L | 0.4 #5 | | 545 | 2155 | 266 | 3186 | 1767 | 145 | 1851 | 665 | 1728 | 175 | - | 801 | 2335 | 626 | 1079 | 1653 | 773 | 330 |
| | Phosphorus (Filtered) | µg/L | 0.4 #5 | | 6 | 7 | <5 | <5 | <5 | <5 | <5 | 10 | 16 | <5 | - | <5 | 18 | 7 | 9 | 7 | 9 | 10 |
| | Selenium (Filtered) | µg/L | 10 #2 | | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | - | - | <3 | <3 | <1.2 | <3 | <3 | <3 | <3 |
| | Sodium (Filtered) | mg/L | 200 #2 | | 7.4 | 7.5 | 13.7 | 11.2 | 12.2 | 12.4 | 11.2 | 11.7 | 13.7 | 13 | - | 11.5 | 8 | 7.4 | 7.6 | 7.6 | 17.4 | 6.8 |
| | Zinc | µg/L | 6,000 #5 | | 25 | 64 | 27 | 273 | 147 | 12 | 159 | 56 | 141 | 13 | - | 68 | 72 | 30 | 42 | 61 | 43 | 16 |
| | Zinc (Filtered) | µg/L | 6,000 #5 | | 11 | 5 | <3 | <3 | 3 | <3 | 4 | 14 | <3 | <3 | - | <3 | 4 | 3.4 | <3 | <3 | <3 | 3 |
| | Potassium (Filtered) | mg/L | | | 0.6 | 0.6 | 0.7 | 0.6 | 0.6 | 0.4 | 0.6 | 0.5 | 0.5 | 0.4 | - | 0.4 | 1 | 1 | 0.9 | 0.8 | 0.9 | 0.8 |
| | Chromium (hexavalent) | µg/L | Use Chromium (total) #2 | | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| | Chromium (Trivalent) (Filtered) | µg/L | Use Chromium (total) #2 | | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| Inorganics | Cyanide (Free) | mg/L | Use Cyanide Total #2 | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Cyanide Total | mg/L | 0.05 #2 | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Fluoride | mg/L | 1.5 #2 | | 0.0042 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 0.0004 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | - | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| | Sulphate | mg/L | 250 #2 | | 14.1 | 14.6 | 24.7 | 9.1 | 9.2 | 12.7 | 7.6 | 8.3 | 13.8 | 11.9 | - | 7.8 | 12.5 | 16.3 | 15.8 | 16 | 18.9 | 17.7 |
| | Chloride | mg/L | 250 #2 | | 19.4 | 20.2 | 32.1 | 30.3 | 27.3 | 27.8 | 26.4 | 30.2 | 32.7 | 28.5 | - | 31.0 | 13.5 | 14.2 | 13.9 | 13 | 30.5 | 13.9 |
| | Nitrate (as NO3-) | mg/L | 50 #2 | | 37 | 38.7 | 61.9 | 34.3 | 36.2 | 42.3 | 31.8 | 34 | 39.9 | 42 | - | 31.8 | 27.1 | 28.8 | 27.5 | 27.8 | 29.6 | 31.2 |
| | Nitrite (as NO2-) | mg/L | 0.5 #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 |
| | Alkalinity (total) as CaCO3 | mg/L | | | 584 | 84,700 | 380 | 3918 | 2388 | 388 | 2371 | 1122 | 2219 | 260 | - | 47,800 | 4136 | 1414 | 2311 | 3081 | 1741 | 647 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | | 210 | 216 | 204 | - | 232 | 208 | 216 | 222 | 224 | 214 | - | 200 | 216 | 276 | 300 | 244 | 328 | 260 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | | <1 | <50 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <50 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 584 | 84,700 | 380 | 3918 | 2388 | 388 | 2371 | 1122 | 2219 | 260 | - | 47,800 | 4136 | 1414 | 2311 | 3081 | 1741 | 647 |
| | Ammoniacal Nitrogen as N | mg/L | | | 0.04 | <0.03 | <0.03 | 0.05 | 0.04 | <0.03 | <0.03 | 0.06 | <0.03 | <0.03 | - | <0.03 | 0.03 | <0.03 | <0.03 | 0.03 | <0.03 | <0.03 |
| | TDS | mg/L | | | 300 - 391 | 421 | 480 | 363 | 380 | 415 | 361 | 372 | 389 | 372 | 340 | 381 | 376 | 488 | 402 | 448 | 523 | 412 |
| Other | Electrical conductivity *(lab) | µS/cm | | | 519 | 509 | - | - | - | - | - | - | - | - | - | 497 | - | - | - | - | - | - |
| | Dissolved Organic Carbon | mg/L | | | 3 | <2 | <2 | <2 | <2 | <2 | <2 | 3 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | pH (Lab) | pH_Units | | | 7.62 | 7.68 | 7.72 | 6.87 | 7.69 | 7.55 | - | 7.53 | - | 7.76 | - | 7.73 | 6.82 | - | 7.64 | 7.43 | 7.29 | 7.91 |
| Field | Temp | oC | | | 13.2 | - | - | - | - | - | - | - | - | - | 14.68 | - | - | - | - | - | - | - |
| | Dissolved Oxygen | mg/L | | | 9.52 | - | - | - | - | - | - | - | - | - | 8.83 | - | - | - | - | - | - | - |
| MISC | Oxygen | mg/L | | | 9 | - | 11 | 10 | 10 | 10 | 9 | 10 | 11 | 9 | - | - | 9 | 10 | 9 | 9 | 10 | 9 |

**Env Stds Comments**

#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:AECOM DWG (WHO method)
#4:WHO DWG 2017
#5:USEPA RSL (tapwater) [May 2020]
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**

XXX Exceedance of EC Protective of Groundwater

| | | | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX633 | RX633 | RX633 | RX634 | RX634 | RX634 | RX634 | RX634 | RX634 | RX634 | | | | |
| | | | Date | 28/07/2020 | 21/10/2020 | 21/01/2021 | 17/04/2019 | 18/07/2019 | 14/10/2019 | 20/01/2020 | 13/05/2020 | 26/10/2020 | 18/01/2021 | Statistical Summary | | | |
| Group | Determinand | Units | EC Protective of Groundwater (DWS) | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | <0.03 | <0.03 | <0.03 | - | - | - | - | <0.03 | <0.03 | <0.03 | 14 | 0 | ND | 0 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | - | <0.03 | - | <0.03 | <0.03 | - | - | - | 17 | 1 | 0.14 | 0 |
| TPH | >C5-C6 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >C6-C8 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >C8-C10 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >C10-C12 Aliphatics | µg/L | 300[#1] | - | - | - | <5 | <5 | <5 | <5 | <5 | - | - | 35 | 0 | ND | 0 |
| | >C12-C16 Aliphatics | µg/L | 300[#1] | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >C16-C21 Aliphatics | µg/L | 300[#1] | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >C16-C35 Aliphatics | µg/L | 300[#1] | - | - | - | <20 | <20 | <20 | <20 | <20 | - | - | 35 | 0 | ND | 0 |
| | >C21-C35 Aliphatics | µg/L | 300[#1] | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >EC5-EC7 Aromatics | µg/L | 1[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >EC7-EC8 Aromatics | µg/L | 700[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >EC8-EC10 Aromatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >EC10-EC12 Aromatics | µg/L | 90[#1] | - | - | - | <5 | <5 | <5 | <5 | <5 | - | - | 35 | 0 | ND | 0 |
| | >EC12-EC16 Aromatics | µg/L | 90[#1] | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >EC16-EC21 Aromatics | µg/L | 90[#1] | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >EC21-EC35 Aromatics | µg/L | 90[#1] | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| VOC | MTBE | µg/L | 1,800[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Benzene | µg/L | 1[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Toluene | µg/L | 700[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Ethylbenzene | µg/L | 300[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Xylene Total | µg/L | 500[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | Xylene (o) | µg/L | 190[#5] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| PAH | Naphthalene | µg/L | 6[#3] | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 44 | 0 | ND | 0 |
| | Acenaphthylene | µg/L | 18[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 44 | 0 | ND | 0 |
| | Acenaphthene | µg/L | 18[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 42 | 0 | ND | 0 |
| | Fluorene | µg/L | 12[#3] | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | 44 | 0 | ND | 0 |
| | Phenanthrene | µg/L | 4[#3] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 42 | 0 | ND | 0 |
| | Anthracene | µg/L | 90[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 44 | 0 | ND | 0 |
| | Fluoranthene | µg/L | 4[#4] | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | 44 | 0 | ND | 0 |
| | Pyrene | µg/L | 9[#3] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 44 | 0 | ND | 0 |
| | Benz(a)anthracene | µg/L | 3.5[#3] | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 44 | 0 | ND | 0 |
| | Chrysene | µg/L | 7[#3] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 44 | 0 | ND | 0 |
| | Benzo(a) pyrene | µg/L | 0.01[#2] | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | 44 | 0 | ND | 0 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 44 | 0 | ND | 0 |
| | Dibenz(a,h)anthracene | µg/L | 0.07[#3] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 0 | ND | 0 |
| | Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 44 | 0 | ND | 0 |
| | Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 0 | ND | 0 |
| | Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 0 | ND | 0 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | 44 | 0 | ND | 0 |
| | PAHs (sum of 4) | µg/L | 0.1[#2] | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | 44 | 0 | ND | 0 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | 44 | 0 | ND | 0 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | 44 | 0 | ND | 0 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | 44 | 0 | ND | 0 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | 44 | 0 | ND | 0 |
| PCBs | PCB 118 | µg/L | 0.004[#5] | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 28 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 52 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 101 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 138 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 153 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 180 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | Total PCB 7 Congeners | µg/L | | - | - | - | - | - | - | <0.7 | - | - | - | 15 | 0 | ND | 0 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Azinophos methyl | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Carbophenothion | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Chlorfenvinphos | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Chlorpyrifos | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Chlorpyrifos-methyl | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Diazinon | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Dichlorvos | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Dimethoate | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Ethion | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Parathion | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Etrimphos | mg/L | 0.0001[#2] | - | - | - | - | - | - | <0.00001 | - | - | - | 15 | 0 | ND | 0 |
| | Fenitrothion | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Fenthion | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Malathion | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Methyl parathion | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Mevinphos (Phosdrin) | µg/L | 0.1[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Phosalone | mg/L | 0.0001[#2] | - | - | - | - | - | - | <0.00001 | - | - | - | 15 | 0 | ND | 0 |

| | | | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX633 | RX633 | RX633 | RX634 | RX634 | RX634 | RX634 | RX634 | RX634 | RX634 | | | | |
| | | | Date | 28/07/2020 | 21/10/2020 | 21/01/2021 | 17/04/2019 | 18/07/2019 | 14/10/2019 | 20/01/2020 | 13/05/2020 | 26/10/2020 | 18/01/2021 | Statistical Summary | | | |
| **Group** | **Determinand** | **Units** | EC Protective of Groundwater (DWS) | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| | Pirimiphos-methyl | µg/L | 0.1 #2 | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Propetamphos | mg/L | 0.0001 #2 | - | - | - | - | - | - | <0.00001 | - | - | - | 15 | 0 | ND | 0 |
| | Triazophos | mg/L | 0.0001 #2 | - | - | - | - | - | - | <0.00001 | - | - | - | 15 | 0 | ND | 0 |
| | Disulfoton | µg/L | 0.1 #2 | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| Metals | Antimony (Filtered) | µg/L | 5 #2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 44 | 1 | 2 | 0 |
| | Arsenic (Filtered) | µg/L | 10 #2 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | 44 | 4 | 6.2 | 0 |
| | Beryllium (Filtered) | µg/L | 12 #4 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 44 | 0 | ND | 0 |
| | Boron (Filtered) | µg/L | 1,000 #2 | 20 | 25 | 31 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | 44 | 12 | 31 | 0 |
| | Cadmium | µg/L | 5 #2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 44 | 0 | ND | 0 |
| | Cadmium (Filtered) | µg/L | 5 #2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 44 | 0 | ND | 0 |
| | Calcium (Filtered) | mg/L | | 151.8 | 93.2 | 102.1 | 102.2 | 95.8 | 93.8 | 125.7 | 101.8 | 95.5 | 109.7 | 44 | 44 | 151.8 | 0 |
| | Chromium (III+VI) (Filtered) | µg/L | 50 #2 | 1.8 | <1.5 | <1.5 | 4.3 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | 44 | 3 | 4.3 | 0 |
| | Copper | µg/L | 2,000 #2 | <7 | 13 | <7 | 11 | 29 | <7 | <7 | <7 | <7 | <7 | 44 | 30 | 146 | 0 |
| | Copper (Filtered) | µg/L | 2,000 #2 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | 44 | 0 | ND | 0 |
| | Iron | µg/L | 200 #2 | 3250 | 13,310 | 1000 | 6213 | 36,130 | 4168 | 28,900 | 12,170 | 2642 | 4891 | 44 | 44 | 78670 | 44 |
| | Iron (Filtered) | µg/L | 200 #2 | 332 | <20 | 84 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | 44 | 4 | 332 | 1 |
| | Lead (Filtered) | µg/L | 10 #2 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Magnesium (Filtered) | mg/L | | 1.6 | 1.3 | 1.5 | 1 | 0.8 | 0.9 | 1.4 | 1.1 | 0.9 | 1.2 | 44 | 44 | 3.8 | 0 |
| | Mercury (Filtered) | µg/L | 1 #2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 44 | 0 | ND | 0 |
| | Molybdenum (Filtered) | µg/L | 70 #4 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | 43 | 0 | ND | 0 |
| | Nickel (Filtered) | µg/L | 20 #2 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 44 | 4 | 4 | 0 |
| | Phosphorus | µg/L | 0.4 #5 | 726 | 2045 | 84 | 891 | 3430 | 661 | 1558 | 1138 | 267 | 529 | 44 | 44 | 3925 | 44 |
| | Phosphorus (Filtered) | µg/L | 0.4 #5 | 98 | 9 | 25 | 6 | 9 | 8 | 17 | 11 | 7 | 10 | 44 | 32 | 98 | 32 |
| | Selenium (Filtered) | µg/L | 10 #2 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | 42 | 0 | ND | 0 |
| | Sodium (Filtered) | mg/L | 200 #2 | 7 | 9.8999996185 | 11 | 18.1 | 12.5 | 21.7 | 32 | 21.3 | 42.5 | 24.10000038 | 44 | 44 | 42.5 | 0 |
| | Zinc | µg/L | 6,000 #5 | 36 | 107 | 13 | 32 | 127 | 25 | 56 | 50 | 13 | 22 | 44 | 44 | 273 | 0 |
| | Zinc (Filtered) | µg/L | 6,000 #5 | 6 | 3 | 6 | <3 | <3 | 8 | <3 | <3 | <3 | 8 | 44 | 17 | 14 | 0 |
| | Potassium (Filtered) | mg/L | | 1 | 0.9 | 1.2 | 0.3 | 0.2 | 0.5 | 0.3 | 0.2 | 0.4 | 0.3 | 44 | 44 | 1.2 | 0 |
| | Chromium (hexavalent) | µg/L | Use Chromium (total) #2 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | 44 | 0 | ND | 0 |
| | Chromium (Trivalent) (Filtered) | µg/L | Use Chromium (total) #2 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | 44 | 0 | ND | 0 |
| Inorganics | Cyanide (Free) | mg/L | Use Cyanide Total #2 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 0 | ND | 0 |
| | Cyanide Total | mg/L | 0.05 #2 | <0.01 | <0.01 | 0.22 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 1 | 0.22 | 1 |
| | Fluoride | mg/L | 1.5 #2 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 44 | 2 | 0.0042 | 0 |
| | Sulphate | mg/L | 250 #2 | 16.9 | 15.9 | 17.6 | 11.3 | 8.4 | 8 | 28.9 | 13.4 | 12.2 | 20.9 | 44 | 44 | 33.3 | 0 |
| | Chloride | mg/L | 250 #2 | 14 | 14.0 | 22.4 | 37.7 | 26.5 | 46.5 | 67.2 | 43.4 | 84.6 | 52.3 | 44 | 44 | 84.599998 | 0 |
| | Nitrate (as NO3-) | mg/L | 50 #2 | 29.9 | 25.7 | 31 | 27.9 | 21 | 17.2 | 53 | 28.7 | 18.8 | 44.5 | 44 | 44 | 95.9 | 9 |
| | Nitrite (as NO2-) | mg/L | 0.5 #2 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 44 | 0 | ND | 0 |
| | Alkalinity (total) as CaCO3 | mg/L | | 1300 | 189,400 | 15,300 | 4482 | 7590 | 1492 | 3346 | 218 | 42,200 | 80,900 | 44 | 44 | 189400 | 0 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | 246 | 260 | 210 | 230 | 236 | 220 | 244 | 218 | 226 | 210 | 41 | 41 | 328 | 0 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <1 | <50 | <50 | <1 | <1 | <1 | <1 | <1 | <50 | <50 | 44 | 0 | ND | 0 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 1300 | 189,400 | 15,300 | 4482 | 7590 | 1492 | 3346 | 218 | 42,200 | 80,900 | 44 | 44 | 189400 | 0 |
| | Ammoniacal Nitrogen as N | mg/L | | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.05 | 44 | 10 | 0.06 | 0 |
| | TDS | mg/L | | 330 - 547 | 420 | 404 | 426 | 291 | 348 | 649 | 399 | 473 | 530 | 46 | 46 | 649 | 0 |
| Other | Electrical conductivity *(lab) | µS/cm | | 510 | 494 | 550 | - | - | - | - | - | 700 | 658 | 9 | 9 | 700 | 0 |
| | Dissolved Organic Carbon | mg/L | | <2 | <2 | <2 | 3 | <2 | 4 | <2 | <2 | <2 | <2 | 44 | 6 | 4 | 0 |
| | pH (Lab) | pH_Units | | 7.61 | 7.49 | 7.69 | 7.38 | - | 7.45 | - | 7.92 | 7.59 | 7.52 | 37 | 37 | 7.92 | 0 |
| Field | Temp | oC | | 13.4 | - | - | - | - | - | - | - | - | - | 4 | 4 | 14.68 | 0 |
| | Dissolved Oxygen | mg/L | | 8.8 | - | - | - | - | - | - | - | - | - | 4 | 4 | 9.52 | 0 |
| MISC | Oxygen | mg/L | | 10 | - | - | 9 | 10 | 9 | 10 | 10 | - | - | 37 | 37 | 11 | 0 |

**Env Stds Comments**

#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:AECOM DWG (WHO method)
#4:WHO DWG 2017
#5:USEPA RSL (tapwater) [May 2020]
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**

**XXX** Exceedance of EC Protective of Groundwater

| | | | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 |
| | | | Date | 18/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 18/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 | 06/08/2020 | 23/10/2020 | 18/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 17/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 |
| **Group** | **Determinand** | **Units** | EC Protective of Surface Water (EQS) | | | | | | | | | | | | | | | | | | | |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | - | - | - | - | - | - | - | <0.03 | - | <0.03 | - | - | - | - | - | - | - | <0.03 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | <0.06 | - | <0.06 | <0.03 | - | <0.03 | - | - | - | - | <0.06 | <0.06 | <0.06 | - | - | - | - | - |
| TPH | >C5-C6 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C6-C8 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C8-C10 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C10-C12 Aliphatics | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | >C12-C16 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C16-C21 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C16-C35 Aliphatics | µg/L | | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | - | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| | >C21-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC7 Aromatics | µg/L | 10[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC7-EC8 Aromatics | µg/L | 74[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC8-EC10 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC10-EC12 Aromatics | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | >EC12-EC16 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC16-EC21 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC21-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| VOC | MTBE | µg/L | 5,100[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Benzene | µg/L | 10[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Toluene | µg/L | 74[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Ethylbenzene | µg/L | 20[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene Total | µg/L | 30[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | Xylene (o) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| PAH | Naphthalene | µg/L | 2[#1] | <0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| | Acenaphthylene | µg/L | | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Acenaphthene | µg/L | | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | - | <0.013 | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluorene | µg/L | | <0.042 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | - | <0.014 | <0.042 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 |
| | Phenanthrene | µg/L | | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | - | <0.011 | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Anthracene | µg/L | 0.1[#1] | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluoranthene | µg/L | 0.0063[#1] | <0.036 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | - | <0.012 | <0.036 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| | Pyrene | µg/L | | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.039 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Benz(a)anthracene | µg/L | | <0.045 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.045 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 |
| | Chrysene | µg/L | | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(a) pyrene | µg/L | 0.00017[#1] | <0.048 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.048 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Dibenz(a,h)anthracene | µg/L | | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.033 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(b)fluoranthene | µg/L | 0.017[#6] | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(k)fluoranthene | µg/L | 0.017[#6] | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.03 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.054 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | - | <0.018 | <0.054 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 |
| | PAHs (sum of 4) | µg/L | | <0.126 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | - | <0.042 | <0.126 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 |
| | PAH 16 Total | µg/L | | <0.585 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | - | <0.195 | <0.585 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.066 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | - | <0.022 | <0.066 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.048 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.048 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | - | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 |
| PCBs | PCB 118 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 28 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 52 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 101 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 138 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 153 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | PCB 180 | µg/L | | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - |
| | Total PCB 7 Congeners | µg/L | | <0.7 | <0.7 | <0.7 | - | - | <0.7 | - | - | - | - | <0.7 | <0.7 | <0.7 | - | - | <0.7 | - | - |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Azinophos methyl | µg/L | 0.01[#4] | <0.05 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.05 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Carbophenothion | µg/L | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Chlorfenvinphos | µg/L | 0.1[#1] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Chlorpyrifos | µg/L | 0.03[#1] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Chlorpyrifos-methyl | µg/L | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Diazinon | µg/L | 0.01[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Dichlorvos | µg/L | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Dimethoate | µg/L | 0.48[#2] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Ethion | µg/L | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Parathion | µg/L | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Etrimphos | mg/L | | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - |
| | Fenitrothion | µg/L | 0.01[#4] | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |

| Group | Determinand | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Location | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX505A | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 | PX506 |
| | | | | Date | 18/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 18/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 | 06/08/2020 | 23/10/2020 | 18/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 17/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 |
| | Fenthion | µg/L | | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Malathion | µg/L | 0.01[#4] | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Methyl parathion | µg/L | | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Mevinphos (Phosdrin) | µg/L | 0.02[#7] | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Phosalone | mg/L | | | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - |
| | Pirimiphos-methyl | µg/L | 0.015[#4] | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| | Propetamphos | mg/L | 0.00003[#4] | | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - |
| | Triazophos | mg/L | 0.000005[#4] | | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - |
| | Disulfoton | µg/L | | | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - |
| Metals | Antimony (Filtered) | µg/L | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Arsenic (Filtered) | µg/L | 50[#2] | | <2.5 | 2.8 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | - | 2.8 | <2.5 | 2.7 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 |
| | Beryllium (Filtered) | µg/L | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Boron (Filtered) | µg/L | 2.000[#4] | | <12 | <12 | <12 | <12 | <12 | <12 | <12 | 15 | - | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 |
| | Cadmium | µg/L | 0.08[#1] | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Cadmium (Filtered) | µg/L | 0.08[#1] | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Calcium (Filtered) | mg/L | | | 114.2 | 104.4 | 107.1 | 117.4 | 109.7 | 100.2 | 117.8 | 118 | - | 98.9 | 96.1 | 102.3 | 101.1 | 100.2 | 104.4 | 100.8 | 102.7 | 100.7 |
| | Chromium (III+VI) (Filtered) | µg/L | | | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | - | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 |
| | Copper | µg/L | 1[#2] | | **123** | **81** | **62** | **14** | **25** | **17** | **15** | <7 | - | **41** | **40** | **40** | **75** | **7** | **16** | **16** | **15** | <7 |
| | Copper (Filtered) | µg/L | 1[#2] | | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | - | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 |
| | Iron | µg/L | 1.000[#2] | | **61,910** | **43,110** | **30,130** | **5948** | **9630** | **7761** | **6746** | **2362** | - | **24,770** | **18,360** | **21,180** | **39,540** | **2658** | **7010** | **8118** | **8744** | **2156** |
| | Iron (Filtered) | µg/L | 1.000[#2] | | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| | Lead (Filtered) | µg/L | 1.2[#1] | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Magnesium (Filtered) | mg/L | | | 3 | 3.4 | 2.6 | 2.2 | 2.8 | 2.9 | 1.8 | 3.1 | - | 2.9 | 1.8 | 1.6 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.3 |
| | Mercury (Filtered) | µg/L | 0.07[#6] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Molybdenum (Filtered) | µg/L | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Nickel (Filtered) | µg/L | 4[#1] | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Phosphorus | µg/L | See source document[#1] | | 3925 | 2859 | 2114 | 587 | 798 | 727 | 694 | 255 | - | 2492 | 1287 | 3081 | 3804 | 424 | 2213 | 1727 | 1210 | 414 |
| | Phosphorus (Filtered) | µg/L | See source document[#1] | | 10 | <5 | <5 | 5 | <5 | 9 | 75 | <5 | - | <5 | 7 | 14 | 6 | 7 | 6 | 10 | 6 | 6 |
| | Selenium (Filtered) | µg/L | | | <3 | <3 | <3 | <3 | <3 | <3 | <3 | - | - | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| | Sodium (Filtered) | mg/L | | | 6.2 | 5.9 | 6.2 | 6.5 | 6.3 | 6.2 | 6 | 6.6 | - | 6.1 | 7.6 | 7.3 | 7.8 | 7.7 | 7.7 | 7.5 | 7.8 | 7.6 |
| | Zinc | µg/L | 10.9[#2] | | **238** | **160** | **121** | **31** | **61** | **40** | **35** | **13** | - | **108** | **73** | **101** | **177** | **22** | **54** | **48** | **47** | **14** |
| | Zinc (Filtered) | µg/L | 10.9[#2] | | <3 | <3 | <3 | <3 | **13** | <3 | <3 | <3 | - | <3 | 3 | <3 | <3 | 5 | 4 | <3 | <3 | <3 |
| | Potassium (Filtered) | mg/L | | | 0.5 | 0.5 | 0.7 | 0.3 | 0.5 | 0.5 | 0.3 | 0.4 | - | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 | 0.6 |
| | Chromium (hexavalent) | µg/L | 3.4[#2] | | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| | Chromium (Trivalent) (Filtered) | µg/L | 4.7[#2] | | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| Inorganics | Cyanide (Free) | mg/L | 0.001[#4] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Cyanide Total | mg/L | 0.001[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Fluoride | mg/L | 1[#4] | | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | - | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| | Sulphate | mg/L | 400[#4] | | 32.5 | 17 | 12.7 | 17.1 | 12.1 | 10.3 | 33.3 | 26.4 | - | 16.3 | 16.2 | 14.2 | 13.4 | 13 | 13.2 | 13.3 | 14 | 13.1 |
| | Chloride | mg/L | 250[#4] | | 21.6 | 23.6 | 24.4 | 23.5 | 22.4 | 20.7 | 21 | 21.6 | - | 21.6 | 17.9 | 20.1 | 18.5 | 19.2 | 18.4 | 18.7 | 18.1 | 18.7 |
| | Nitrate (as NO3-) | mg/L | | | 63.8 | 53.8 | 81.5 | 95.9 | 35.7 | 52.3 | 62.5 | 69.4 | - | 49.6 | 38.2 | 3.5 | 35.5 | 34.3 | 34.2 | 35.7 | 35.1 | 35.8 |
| | Nitrite (as NO2-) | mg/L | | | <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 |
| | Alkalinity (total) as CaCO3 | mg/L | | | 2549 | 2802 | 2196 | 628 | 830 | 1046 | 790 | 334 | - | 125,500 | 1004 | 2454 | 2963 | 514 | 2203 | 1695 | 982 | 278 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | | 194 | - | 216 | 204 | 218 | 216 | 212 | 192 | - | 202 | 192 | - | 226 | 216 | 236 | 234 | 202 | 236 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <50 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 2549 | 2802 | 2196 | 628 | 830 | 1046 | 790 | 334 | - | 125,500 | 1004 | 2454 | 2963 | 514 | 2203 | 1695 | 982 | 278 |
| | Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | | <0.03 | 0.03 | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | 0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| | TDS | mg/L | | | 569 | 415 | 446 | 542 | 448 | 388 | 477 | 465 | 380 | 440 | 362 | 379 | 361 | 390 | 373 | 370 | 405 | 349 |
| Other | Electrical conductivity *(lab) | µS/cm | | | - | - | - | - | - | - | - | - | - | 525 | - | - | - | - | - | - | - | - |
| | Dissolved Organic Carbon | mg/L | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 2 | - | <2 | <2 | <2 | <2 | <2 | <2 | 3 | <2 | <2 |
| | pH (Lab) | pH_Units | | | 6.95 | 6.77 | 7.21 | 7.47 | 7.42 | 7.53 | - | 7.84 | - | 7.67 | 7.01 | 6.83 | 7.21 | 7.51 | - | 7.43 | 7.36 | 7.48 |
| Field | Temp | oC | | | - | - | - | - | - | - | - | - | 13.98 | - | - | - | - | - | - | - | - | - |
| | Dissolved Oxygen | mg/L | | | - | - | - | - | - | - | - | - | 8.45 | - | - | - | - | - | - | - | - | - |
| MISC | Oxygen | mg/L | | | 11 | 10 | 10 | 9 | 9 | 9 | 11 | 9 | - | - | 10 | 10 | 10 | 9 | 10 | 9 | 10 | 9 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
#7:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**
**XXX** Exceedance of EC Protective of Surface Water

| | | | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | PX506 | PX506 | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | RX633 | RX633 | RX633 | RX633 | RX633 | RX633 |
| | | | Date | 04/08/2020 | 23/10/2020 | 11/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 17/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 | 06/08/2020 | 23/10/2020 | 23/08/2018 | 18/04/2019 | 11/07/2019 | 09/10/2019 | 15/01/2020 | 15/05/2020 |
| **Group** | **Determinand** | **Units** | EC Protective of Surface Water (EQS) | | | | | | | | | | | | | | | | | | |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | <0.03 | <0.03 | - | - | - | - | - | - | - | <0.03 | - | <0.03 | - | - | - | - | - | <0.03 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | <0.06 | <0.06 | <0.06 | - | <0.03 | - | - | - | - | - | 0.14 | - | <0.03 | <0.03 | - | - |
| TPH | >C5-C6 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C6-C8 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C8-C10 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C10-C12 Aliphatics | µg/L | | - | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | <5 | <5 | <5 | <5 | <5 | <5 |
| | >C12-C16 Aliphatics | µg/L | | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C16-C21 Aliphatics | µg/L | | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C16-C35 Aliphatics | µg/L | | - | - | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | - | <20 | <20 | <20 | <20 | <20 | <20 |
| | >C21-C35 Aliphatics | µg/L | | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC7 Aromatics | µg/L | 10[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC7-EC8 Aromatics | µg/L | 74[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC8-EC10 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC10-EC12 Aromatics | µg/L | | - | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | <5 | <5 | <5 | <5 | <5 | <5 |
| | >EC12-EC16 Aromatics | µg/L | | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC16-EC21 Aromatics | µg/L | | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC21-EC35 Aromatics | µg/L | | - | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| VOC | MTBE | µg/L | 5,100[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Benzene | µg/L | 10[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Toluene | µg/L | 74[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Ethylbenzene | µg/L | 20[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene Total | µg/L | 30[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | Xylene (o) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| PAH | Naphthalene | µg/L | 2[#1] | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| | Acenaphthylene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Acenaphthene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | - | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluorene | µg/L | | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | - | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 |
| | Phenanthrene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | - | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Anthracene | µg/L | 0.1[#1] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluoranthene | µg/L | 0.0063[#1] | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | - | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| | Pyrene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Benz(a)anthracene | µg/L | | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 |
| | Chrysene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(a) pyrene | µg/L | 0.00017[#1] | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Dibenz(a,h)anthracene | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(b)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(k)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | - | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 |
| | PAHs (sum of 4) | µg/L | | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | - | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | - | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | - | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | - | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 |
| PCBs | PCB 118 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 28 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 52 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 101 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 138 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 153 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | PCB 180 | µg/L | | - | - | <0.1 | <0.1 | <0.1 | - | - | <0.1 | - | - | - | - | <0.1 | - | - | - | <0.1 | - |
| | Total PCB 7 Congeners | µg/L | | - | - | <0.7 | <0.7 | <0.7 | - | - | <0.7 | - | - | - | - | <0.7 | - | - | - | <0.7 | - |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Azinophos methyl | µg/L | 0.01[#4] | - | - | <0.02 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Carbophenothion | µg/L | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Chlorfenvinphos | µg/L | 0.1[#1] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Chlorpyrifos | µg/L | 0.03[#1] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Chlorpyrifos-methyl | µg/L | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Diazinon | µg/L | 0.01[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Dichlorvos | µg/L | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Dimethoate | µg/L | 0.48[#2] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Ethion | µg/L | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Parathion | µg/L | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Etrimphos | mg/L | | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00003 | - | - | - | <0.00001 | - |
| | Fenitrothion | µg/L | 0.01[#4] | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |

| Group | Determinand | Units | EC Protective of Surface Water (EQS) | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Location | PX506 | PX506 | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | R503B | RX633 | RX633 | RX633 | RX633 | RX633 | RX633 |
| | | | | Date | 04/08/2020 | 23/10/2020 | 11/04/2018 | 14/08/2018 | 30/01/2019 | 16/04/2019 | 17/07/2019 | 11/10/2019 | 17/01/2020 | 18/05/2020 | 06/08/2020 | 23/10/2020 | 23/08/2018 | 18/04/2019 | 11/07/2019 | 09/10/2019 | 15/01/2020 | 15/05/2020 |
| | Fenthion | µg/L | | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Malathion | µg/L | 0.01 #4 | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Methyl parathion | µg/L | | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Mevinphos (Phosdrin) | µg/L | 0.02 #7 | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Phosalone | mg/L | | | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00003 | - | - | - | <0.00001 | - |
| | Pirimiphos-methyl | µg/L | 0.015 #4 | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| | Propetamphos | mg/L | 0.00003 #4 | | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00003 | - | - | - | <0.00001 | - |
| | Triazophos | mg/L | 0.000005 #4 | | - | - | <0.00001 | <0.00001 | <0.00001 | - | - | <0.00001 | - | - | - | - | <0.00003 | - | - | - | <0.00001 | - |
| | Disulfoton | µg/L | | | - | - | <0.01 | <0.01 | <0.01 | - | - | <0.01 | - | - | - | - | <0.03 | - | - | - | <0.01 | - |
| Metals | Antimony (Filtered) | µg/L | | | <2 | <2 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | 6.2 | <2.5 | <2.5 | <2.5 | <2.5 |
| | Arsenic (Filtered) | µg/L | 50 #2 | | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | - | <2.5 | <2.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Beryllium (Filtered) | µg/L | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Boron (Filtered) | µg/L | 2.000 #4 | | 16 | 16 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | - | <12 | 31 | 12 | 24 | 23 | 13 | 17 |
| | Cadmium | µg/L | 0.08 #1 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Cadmium (Filtered) | µg/L | 0.08 #1 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.03 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Calcium (Filtered) | mg/L | | | 99.4 | 96.2 | 107.9 | 92.5 | 94.4 | 100.3 | 96.8 | 94.9 | 107.7 | 100 | - | 87.8 | 110.3 | 103.9 | 103.8 | 106.2 | 95.4 | 94.3 |
| | Chromium (III+VI) (Filtered) | µg/L | | | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | - | 1.6 | <1.5 | <0.2 | <1.5 | <1.5 | <1.5 | <1.5 |
| | Copper | µg/L | 1 #2 | | **8** | **15** | **15** | **146** | **78** | <7 | **104** | **28** | **62** | <7 | - | **28** | **10** | <7 | **8** | **10** | <7 | <7 |
| | Copper (Filtered) | µg/L | 1 #2 | | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | - | <7 | <7 | <3 | <7 | <7 | <7 | <7 |
| | Iron | µg/L | 1.000 #2 | | **3229** | **9779** | **4903** | **78,670** | **38,080** | **1848** | **48,050** | **21,530** | **51,310** | **2918** | - | **16,490** | **5870** | **2464** | **4192** | **5839** | **4339** | **1897** |
| | Iron (Filtered) | µg/L | 1.000 #2 | | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | 30 | <20 | - | <20 | <20 | <20 | <20 | 45 | <20 | <20 |
| | Lead (Filtered) | µg/L | 1.2 #1 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | <5 | <5 | <0.4 | <5 | <5 | <5 | <5 |
| | Magnesium (Filtered) | mg/L | | | 1.4 | 1.4 | 3.8 | 3.7 | 2.5 | 2 | 3.2 | 2.7 | 2.5 | 2.3 | - | 2.4 | 1.3 | 1.4 | 1.3 | 1.3 | 1.4 | 1.3 |
| | Mercury (Filtered) | µg/L | 0.07 #6 | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <1 | <1 | <0.5 | <1 | <1 | <1 | <1 |
| | Molybdenum (Filtered) | µg/L | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Nickel (Filtered) | µg/L | 4 #1 | | <2 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | 0.3 | <2 | **4** | <2 | <2 |
| | Phosphorus | µg/L | See source document #1 | | 545 | 2155 | 266 | 3186 | 1767 | 145 | 1851 | 665 | 1728 | 175 | - | 801 | 2335 | 626 | 1079 | 1653 | 773 | 330 |
| | Phosphorus (Filtered) | µg/L | See source document #1 | | 6 | 7 | <5 | <5 | <5 | <5 | <5 | 10 | 16 | <5 | - | <5 | 18 | 7 | 9 | 7 | 9 | 10 |
| | Selenium (Filtered) | µg/L | | | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | - | - | <3 | <3 | <1.2 | <3 | <3 | <3 | <3 |
| | Sodium (Filtered) | mg/L | | | 7.4 | 7.5 | 13.7 | 11.2 | 12.2 | 12.4 | 11.2 | 11.7 | 13.7 | 13 | - | 11.5 | 8 | 7.4 | 7.6 | 7.6 | 17.4 | 6.8 |
| | Zinc | µg/L | 10.9 #2 | | **25** | **64** | **27** | **273** | **147** | **12** | **159** | **56** | **141** | **13** | - | **68** | **72** | **30** | **42** | **61** | **43** | **16** |
| | Zinc (Filtered) | µg/L | 10.9 #2 | | **11** | 5 | <3 | <3 | 3 | <3 | 4 | **14** | <3 | <3 | - | <3 | 4 | 3.4 | <3 | <3 | <3 | 3 |
| | Potassium (Filtered) | mg/L | | | 0.6 | 0.6 | 0.7 | 0.6 | 0.6 | 0.4 | 0.6 | 0.5 | 0.5 | 0.4 | - | 0.4 | 1 | 1 | 0.9 | 0.8 | 0.9 | 0.8 |
| | Chromium (hexavalent) | µg/L | 3.4 #2 | | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| | Chromium (Trivalent) (Filtered) | µg/L | 4.7 #2 | | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| Inorganics | Cyanide (Free) | mg/L | 0.001 #4 | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Cyanide Total | mg/L | 0.001 #2 | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Fluoride | mg/L | 1 #4 | | 0.0042 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 0.0004 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | - | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| | Sulphate | mg/L | 400 #4 | | 14.1 | 14.6 | 24.7 | 9.1 | 9.2 | 12.7 | 7.6 | 8.3 | 13.8 | 11.9 | - | 7.8 | 12.5 | 16.3 | 15.8 | 16 | 18.9 | 17.7 |
| | Chloride | mg/L | 250 #4 | | 19.4 | 20.2 | 32.1 | 30.3 | 27.3 | 27.8 | 26.4 | 30.2 | 32.7 | 28.5 | - | 31 | 13.5 | 14.2 | 13.9 | 13 | 30.5 | 13.9 |
| | Nitrate (as NO3-) | mg/L | | | 37 | 38.7 | 61.9 | 34.3 | 36.2 | 42.3 | 31.8 | 34 | 39.9 | 42 | - | 31.8 | 27.1 | 28.8 | 27.5 | 27.8 | 29.6 | 31.2 |
| | Nitrite (as NO2-) | mg/L | | | <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 |
| | Alkalinity (total) as CaCO3 | mg/L | | | 584 | 84,700 | 380 | 3918 | 2388 | 388 | 2371 | 1122 | 2219 | 260 | - | 47,800 | 4136 | 1414 | 2311 | 3081 | 1741 | 647 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | | 210 | 216 | 204 | - | 232 | 208 | 216 | 222 | 224 | 214 | - | 200 | 216 | 276 | 300 | 244 | 328 | 260 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | | <1 | <50 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | - | <50 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 584 | 84,700 | 380 | 3918 | 2388 | 388 | 2371 | 1122 | 2219 | 260 | - | 47,800 | 4136 | 1414 | 2311 | 3081 | 1741 | 647 |
| | Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen) #2 | | 0.04 | <0.03 | <0.03 | 0.05 | 0.04 | <0.03 | <0.03 | 0.06 | <0.03 | <0.03 | - | <0.03 | 0.03 | <0.03 | <0.03 | 0.03 | <0.03 | <0.03 |
| | TDS | mg/L | | | 300 - 391 | 421 | 480 | 363 | 380 | 415 | 361 | 372 | 389 | 372 | 340 | 381 | 376 | 488 | 402 | 448 | 523 | 412 |
| Other | Electrical conductivity *(lab) | µS/cm | | | 519 | 509 | - | - | - | - | - | - | - | - | - | 497 | - | - | - | - | - | - |
| | Dissolved Organic Carbon | mg/L | | | 3 | <2 | <2 | <2 | <2 | <2 | <2 | 3 | <2 | <2 | - | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | pH (Lab) | pH_Units | | | 7.62 | 7.68 | 7.72 | 6.87 | 7.69 | 7.55 | - | 7.53 | - | 7.76 | - | 7.73 | 6.82 | - | 7.64 | 7.43 | 7.29 | 7.91 |
| Field | Temp | oC | | | 13.2 | - | - | - | - | - | - | - | - | - | 14.68 | - | - | - | - | - | - | - |
| | Dissolved Oxygen | mg/L | | | 9.52 | - | - | - | - | - | - | - | - | - | 8.83 | - | - | - | - | - | - | - |
| MISC | Oxygen | mg/L | | | 9 | - | 11 | 10 | 10 | 10 | 9 | 10 | 11 | 9 | - | - | 9 | 10 | 9 | 9 | 10 | 9 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
#7:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**
**XXX** Exceedance of EC Protective of Surface Water

| | | | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX633 | RX633 | RX633 | RX634 | RX634 | RX634 | RX634 | RX634 | RX634 | RX634 | | | | |
| | | | Date | 28/07/2020 | 21/10/2020 | 21/01/2021 | 17/04/2019 | 18/07/2019 | 14/10/2019 | 20/01/2020 | 13/05/2020 | 26/10/2020 | 18/01/2021 | Statistical Summary | | | |
| Group | Determinand | Units | EC Protective of Surface Water (EQS) | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | <0.03 | <0.03 | <0.03 | - | - | - | - | <0.03 | <0.03 | <0.03 | 14 | 0 | ND | 0 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | - | <0.03 | - | <0.03 | <0.03 | - | - | - | 17 | 1 | 0.14 | 0 |
| TPH | >C5-C6 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >C6-C8 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >C8-C10 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >C10-C12 Aliphatics | µg/L | | - | - | - | <5 | <5 | <5 | <5 | <5 | - | - | 35 | 0 | ND | 0 |
| | >C12-C16 Aliphatics | µg/L | | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >C16-C21 Aliphatics | µg/L | | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >C16-C35 Aliphatics | µg/L | | - | - | - | <20 | <20 | <20 | <20 | <20 | - | - | 35 | 0 | ND | 0 |
| | >C21-C35 Aliphatics | µg/L | | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >EC5-EC7 Aromatics | µg/L | 10[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >EC7-EC8 Aromatics | µg/L | 74[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >EC8-EC10 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >EC10-EC12 Aromatics | µg/L | | - | - | - | <5 | <5 | <5 | <5 | <5 | - | - | 35 | 0 | ND | 0 |
| | >EC12-EC16 Aromatics | µg/L | | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >EC16-EC21 Aromatics | µg/L | | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >EC21-EC35 Aromatics | µg/L | | - | - | - | <10 | <10 | <10 | <10 | <10 | - | - | 35 | 0 | ND | 0 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| VOC | MTBE | µg/L | 5,100[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Benzene | µg/L | 10[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Toluene | µg/L | 74[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Ethylbenzene | µg/L | 20[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Xylene Total | µg/L | 30[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | 44 | 0 | ND | 0 |
| | Xylene (o) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| PAH | Naphthalene | µg/L | 2[#1] | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 44 | 0 | ND | 0 |
| | Acenaphthylene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 44 | 0 | ND | 0 |
| | Acenaphthene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 42 | 0 | ND | 0 |
| | Fluorene | µg/L | | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | 44 | 0 | ND | 0 |
| | Phenanthrene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 42 | 0 | ND | 0 |
| | Anthracene | µg/L | 0.1[#1] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 44 | 0 | ND | 0 |
| | Fluoranthene | µg/L | 0.0063[#1] | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | 44 | 0 | ND | 0 |
| | Pyrene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | 44 | 0 | ND | 0 |
| | Benz(a)anthracene | µg/L | | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | 44 | 0 | ND | 0 |
| | Chrysene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 44 | 0 | ND | 0 |
| | Benzo(a) pyrene | µg/L | 0.00017[#1] | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | 44 | 0 | ND | 0 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 44 | 0 | ND | 0 |
| | Dibenz(a,h)anthracene | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 0 | ND | 0 |
| | Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | 44 | 0 | ND | 0 |
| | Benzo(b)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 0 | ND | 0 |
| | Benzo(k)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 0 | ND | 0 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | 44 | 0 | ND | 0 |
| | PAHs (sum of 4) | µg/L | | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | 44 | 0 | ND | 0 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | 44 | 0 | ND | 0 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | 44 | 0 | ND | 0 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | 44 | 0 | ND | 0 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | 44 | 0 | ND | 0 |
| PCBs | PCB 118 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 28 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 52 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 101 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 138 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 153 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | PCB 180 | µg/L | | - | - | - | - | - | - | <0.1 | - | - | - | 15 | 0 | ND | 0 |
| | Total PCB 7 Congeners | µg/L | | - | - | - | - | - | - | <0.7 | - | - | - | 15 | 0 | ND | 0 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Azinophos methyl | µg/L | 0.01[#4] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Carbophenothion | µg/L | | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Chlorfenvinphos | µg/L | 0.1[#1] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Chlorpyrifos | µg/L | 0.03[#1] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Chlorpyrifos-methyl | µg/L | | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Diazinon | µg/L | 0.01[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Dichlorvos | µg/L | | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Dimethoate | µg/L | 0.48[#2] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Ethion | µg/L | | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Parathion | µg/L | | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Etrimphos | mg/L | | - | - | - | - | - | - | <0.00001 | - | - | - | 15 | 0 | ND | 0 |
| | Fenitrothion | µg/L | 0.01[#4] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |

| | | | Monitoring Zone | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | Area 3 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | RX633 | RX633 | RX633 | RX634 | RX634 | RX634 | RX634 | RX634 | RX634 | RX634 | | | | |
| | | | Date | 28/07/2020 | 21/10/2020 | 21/01/2021 | 17/04/2019 | 18/07/2019 | 14/10/2019 | 20/01/2020 | 13/05/2020 | 26/10/2020 | 18/01/2021 | Statistical Summary | | | |
| Group | Determinand | Units | EC Protective of Surface Water (EQS) | | | | | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| | Fenthion | µg/L | | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Malathion | µg/L | 0.01 [#4] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Methyl parathion | µg/L | | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Mevinphos (Phosdrin) | µg/L | 0.02 [#7] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Phosalone | mg/L | | - | - | - | - | - | - | <0.00001 | - | - | - | 15 | 0 | ND | 0 |
| | Pirimiphos-methyl | µg/L | 0.015 [#4] | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| | Propetamphos | mg/L | 0.00003 [#4] | - | - | - | - | - | - | <0.00001 | - | - | - | 15 | 0 | ND | 0 |
| | Triazophos | mg/L | 0.000005 [#4] | - | - | - | - | - | - | <0.00001 | - | - | - | 15 | 0 | ND | 0 |
| | Disulfoton | µg/L | | - | - | - | - | - | - | <0.01 | - | - | - | 15 | 0 | ND | 0 |
| Metals | Antimony (Filtered) | µg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 44 | 1 | 2 | 0 |
| | Arsenic (Filtered) | µg/L | 50 [#2] | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | 44 | 4 | 6.2 | 0 |
| | Beryllium (Filtered) | µg/L | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 44 | 0 | ND | 0 |
| | Boron (Filtered) | µg/L | 2,000 [#4] | 20 | 25 | 31 | <12 | <12 | <12 | <12 | <12 | <12 | <12 | 44 | 12 | 31 | 0 |
| | Cadmium | µg/L | 0.08 [#1] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 44 | 0 | ND | 0 |
| | Cadmium (Filtered) | µg/L | 0.08 [#1] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 44 | 0 | ND | 0 |
| | Calcium (Filtered) | mg/L | | 151.8 | 93.2 | 102.1 | 102.2 | 95.8 | 93.8 | 125.7 | 101.8 | 95.5 | 109.7 | 44 | 44 | 151.8 | 0 |
| | Chromium (III+VI) (Filtered) | µg/L | | 1.8 | <1.5 | <1.5 | 4.3 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | 44 | 3 | 4.3 | 0 |
| | Copper | µg/L | 1 [#2] | <7 | **13** | <7 | **11** | **29** | <7 | <7 | <7 | <7 | <7 | 44 | 30 | 146 | 30 |
| | Copper (Filtered) | µg/L | 1 [#2] | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | 44 | 0 | ND | 0 |
| | Iron | µg/L | 1,000 [#2] | **3250** | **13,310** | **1000** | **6213** | **36,130** | **4168** | **28,900** | **12,170** | **2642** | **4891** | 44 | 44 | 78670 | 44 |
| | Iron (Filtered) | µg/L | 1,000 [#2] | 332 | <20 | 84 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | 44 | 4 | 332 | 0 |
| | Lead (Filtered) | µg/L | 1.2 [#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 44 | 0 | ND | 0 |
| | Magnesium (Filtered) | mg/L | | 1.6 | 1.3 | 1.5 | 1 | 0.8 | 0.9 | 1.4 | 1.1 | 0.9 | 1.2 | 44 | 44 | 3.8 | 0 |
| | Mercury (Filtered) | µg/L | 0.07 [#6] | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 44 | 0 | ND | 0 |
| | Molybdenum (Filtered) | µg/L | | <2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | <2 | 43 | 0 | ND | 0 |
| | Nickel (Filtered) | µg/L | 4 [#1] | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 44 | 4 | 4 | 1 |
| | Phosphorus | µg/L | See source document [#1] | 726 | 2045 | 84 | 891 | 3430 | 661 | 1558 | 1138 | 267 | 529 | 44 | 44 | 3925 | 0 |
| | Phosphorus (Filtered) | µg/L | See source document [#1] | 98 | 9 | 25 | 6 | 9 | 8 | 17 | 11 | 7 | 10 | 44 | 32 | 98 | 0 |
| | Selenium (Filtered) | µg/L | | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | 42 | 0 | ND | 0 |
| | Sodium (Filtered) | mg/L | | 7 | 9.9 | 11 | 18.1 | 12.5 | 21.7 | 32 | 21.3 | 42.5 | 24.1 | 44 | 44 | 42.5 | 0 |
| | Zinc | µg/L | 10.9 [#2] | **36** | **107** | **13** | **32** | **127** | **25** | **56** | **50** | **13** | **22** | 44 | 44 | 273 | 44 |
| | Zinc (Filtered) | µg/L | 10.9 [#2] | 6 | 3 | 6 | <3 | <3 | 8 | <3 | <3 | <3 | 8 | 44 | 17 | 14 | 3 |
| | Potassium (Filtered) | mg/L | | 1 | 0.9 | 1.2 | 0.3 | 0.2 | 0.5 | 0.3 | 0.2 | 0.4 | 0.3 | 44 | 44 | 1.2 | 0 |
| | Chromium (hexavalent) | µg/L | 3.4 [#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | 44 | 0 | ND | 0 |
| | Chromium (Trivalent) (Filtered) | µg/L | 4.7 [#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | 44 | 0 | ND | 0 |
| Inorganics | Cyanide (Free) | mg/L | 0.001 [#4] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 0 | ND | 0 |
| | Cyanide Total | mg/L | 0.001 [#2] | <0.01 | <0.01 | **0.22** | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | 44 | 1 | 0.22 | 1 |
| | Fluoride | mg/L | 1 [#4] | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 44 | 2 | 0.0042 | 0 |
| | Sulphate | mg/L | 400 [#4] | 16.9 | 15.9 | 17.6 | 11.3 | 8.4 | 8 | 28.9 | 13.4 | 12.2 | 20.9 | 44 | 44 | 33.3 | 0 |
| | Chloride | mg/L | 250 [#4] | 14 | 14 | 22.4 | 37.7 | 26.5 | 46.5 | 67.2 | 43.4 | 84.6 | 52.3 | 44 | 44 | 84.599998 | 0 |
| | Nitrate (as NO3-) | mg/L | | 29.9 | 25.7 | 31 | 27.9 | 21 | 17.2 | 53 | 28.7 | 18.8 | 44.5 | 44 | 44 | 95.9 | 0 |
| | Nitrite (as NO2-) | mg/L | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 44 | 0 | ND | 0 |
| | Alkalinity (total) as CaCO3 | mg/L | | 1300 | 189,400 | 15,300 | 4482 | 7590 | 1492 | 3346 | 218 | 42,200 | 80,900 | 44 | 44 | 189400 | 0 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | 246 | 260 | 210 | 230 | 236 | 220 | 244 | 218 | 226 | 210 | 41 | 41 | 328 | 0 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <1 | <50 | <50 | <1 | <1 | <1 | <1 | <1 | <50 | <50 | 44 | 0 | ND | 0 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 1300 | 189,400 | 15,300 | 4482 | 7590 | 1492 | 3346 | 218 | 42,200 | 80,900 | 44 | 44 | 189400 | 0 |
| | Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen) [#2] | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | 0.05 | 44 | 10 | 0.06 | 0 |
| | TDS | mg/L | | 330 - 547 | 420 | 404 | 426 | 291 | 348 | 649 | 399 | 473 | 530 | 46 | 46 | 649 | 0 |
| Other | Electrical conductivity *(lab) | µS/cm | | 510 | 494 | 550 | - | - | - | - | - | 700 | 658 | 9 | 9 | 700 | 0 |
| | Dissolved Organic Carbon | mg/L | | <2 | <2 | <2 | 3 | <2 | 4 | <2 | <2 | <2 | <2 | 44 | 6 | 4 | 0 |
| | pH (Lab) | pH_Units | | 7.61 | 7.5 | 7.69 | 7.38 | - | 7.45 | - | 7.92 | 7.59 | 7.52 | 37 | 37 | 7.92 | 0 |
| Field | Temp | oC | | 13.4 | - | - | - | - | - | - | - | - | - | 4 | 4 | 14.68 | 0 |
| | Dissolved Oxygen | mg/L | | 8.8 | - | - | - | - | - | - | - | - | - | 4 | 4 | 9.52 | 0 |
| MISC | Oxygen | mg/L | | 10 | - | - | 9 | 10 | 9 | 10 | 10 | - | - | 37 | 37 | 11 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
#7:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**
**XXX** Exceedance of EC Protective of Surface Water

| Group | Determinand | Units | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Location Code | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | AS | AS | AS |
| | | | | Sampled Date Time | 22/02/2018 | 12/04/2018 | 12/06/2018 | 16/08/2018 | 29/01/2019 | 15/04/2019 | 16/07/2019 | 09/10/2019 | 18/05/2020 | 28/07/2020 | 27/10/2020 | 19/01/2021 | 26/01/2021 | 26/01/2018 | 14/06/2018 | 13/01/2020 |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | | - | - | - | - | - | - | - | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | - | - |
| | MRP Ortho Phosphate as PO4 (total) | mg/L | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | | <0.06 | <0.06 | 0.15 | <0.06 | <0.06 | - | <0.03 | <0.03 | - | - | - | - | - | <0.06 | <0.06 | <0.03 |
| TPH | >C5-C6 Aliphatics | µg/L | 15,000[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C6-C8 Aliphatics | µg/L | 15,000[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C8-C10 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C10-C12 Aliphatics | µg/L | 300[#1] | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | <5 | <5 | <5 |
| | >C12-C16 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 |
| | >C16-C21 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 |
| | >C16-C35 Aliphatics | µg/L | 300[#1] | | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | - | - | - | <20 | <20 | <20 |
| | >C21-C35 Aliphatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 |
| | >C5-C35 Aliphatics | µg/L | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC7 Aromatics | µg/L | 1[#2] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC7-EC8 Aromatics | µg/L | 700[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC8-EC10 Aromatics | µg/L | 300[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC10-EC12 Aromatics | µg/L | 90[#1] | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | <5 | <5 | <5 |
| | >EC12-EC16 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 |
| | >EC16-EC21 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 |
| | >EC21-EC35 Aromatics | µg/L | 90[#1] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 |
| | >EC5-EC35 Aromatics | µg/L | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| VOC | MTBE | µg/L | 1,800[#3] | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Benzene | µg/L | 1[#2] | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Toluene | µg/L | 700[#4] | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Ethylbenzene | µg/L | 300[#4] | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene (m & p) | µg/L | | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene Total | µg/L | 500[#4] | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | Xylene (o) | µg/L | 190[#5] | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| PAH | Naphthalene | µg/L | 6[#3] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| | Acenaphthylene | µg/L | 18[#3] | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Acenaphthene | µg/L | 18[#3] | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluorene | µg/L | 12[#3] | | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 |
| | Phenanthrene | µg/L | 4[#3] | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Anthracene | µg/L | 90[#3] | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluoranthene | µg/L | 4[#4] | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| | Pyrene | µg/L | 9[#3] | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Benz(a)anthracene | µg/L | 3.5[#3] | | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 |
| | Chrysene | µg/L | 7[#3] | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(a) pyrene | µg/L | 0.01[#2] | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Dibenz(a,h)anthracene | µg/L | 0.07[#3] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(b)&(k)fluoranthene | µg/L | | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 |
| | PAHs (sum of 4) | µg/L | 0.1[#2] | | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 |
| | PAH 16 Total | µg/L | | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| SVOC | Total Phenols | µg/L | | | <0.1 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.1 | <0.15 | <0.15 |
| PCBs | PCB 118 | µg/L | 0.004[#5] | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 |
| | PCB 28 | µg/L | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 |
| | PCB 52 | µg/L | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 |
| | PCB 101 | µg/L | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 |
| | PCB 138 | µg/L | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 |
| | PCB 153 | µg/L | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 |
| | PCB 180 | µg/L | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 |
| | Total PCB 7 Congeners | µg/L | | | <0.7 | <0.7 | <0.7 | <0.7 | <0.7 | - | - | - | - | - | - | - | - | <0.7 | <0.7 | <0.7 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.02 | <0.03 |
| | Azinophos methyl | µg/L | 0.1[#2] | | <0.01 | <0.02 | <0.05 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.1 | <0.03 |
| | Carbophenothion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Chlorfenvinphos | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Chlorpyrifos | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Chlorpyrifos-methyl | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Diazinon | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Dichlorvos | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.02 | <0.03 |
| | Dimethoate | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Ethion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Parathion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Etrimphos | mg/L | 0.0001[#2] | | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | <0.00003 |
| | Fenitrothion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Fenthion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Malathion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Methyl parathion | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Mevinphos (Phosdrin) | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Phosalone | mg/L | 0.0001[#2] | | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | <0.00003 |

| | | | EC Protective of Groundwater (DWS) | Monitoring Zone | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Location Code | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | AS | AS | AS |
| | | | | Sampled Date Time | 22/02/2018 | 12/04/2018 | 12/06/2018 | 16/08/2018 | 29/01/2019 | 15/04/2019 | 16/07/2019 | 09/10/2019 | 18/05/2020 | 28/07/2020 | 27/10/2020 | 19/01/2021 | 26/01/2021 | 26/01/2018 | 14/06/2018 | 13/01/2020 |
| | Pirimiphos-methyl | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| | Propetamphos | mg/L | 0.0001[#2] | | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | <0.00003 |
| | Triazophos | mg/L | 0.0001[#2] | | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | <0.00003 |
| | Disulfoton | µg/L | 0.1[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 |
| Metals | Antimony (Filtered) | µg/L | 5[#2] | | <2 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 4 | <2 | <2 | <2 | <2 | <2 | 3 |
| | Arsenic (Filtered) | µg/L | 10[#2] | | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 |
| | Beryllium (Filtered) | µg/L | 12[#4] | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Boron (Filtered) | µg/L | 1,000[#2] | | 21 | 12 | <12 | 14 | 20 | 17 | 12 | <12 | 14 | <12 | 15 | 25 | <12 | 17 | 15 | 13 |
| | Cadmium | µg/L | 5[#2] | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Cadmium (Filtered) | µg/L | 5[#2] | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Calcium (Filtered) | mg/L | | | 92.8 | 100.8 | 98 | 99.8 | 103.1 | 104.3 | 88.2 | 95.7 | 95.4 | 86.9 | 90.8 | 96.3 | 109.7 | 101.1 | 112.8 | 101.4 |
| | Chromium (III+VI) (Filtered) | µg/L | 50[#2] | | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | 6.3 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 |
| | Copper | µg/L | 2,000[#2] | | 16 | <7 | <7 | <7 | <7 | <7 | <7 | 8 | <7 | 14 | 15 | <7 | 14 | <7 | <7 | <7 |
| | Copper (Filtered) | µg/L | 2,000[#2] | | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 |
| | Iron | µg/L | 200[#2] | | **5055** | **518** | **661** | **1152** | **242** | 75 | **857** | **3062** | **437** | **4992** | **6133** | **501** | **4303** | 21 | <20 | <20 |
| | Iron (Filtered) | µg/L | 200[#2] | | - | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | <20 | <20 |
| | Lead (Filtered) | µg/L | 10[#2] | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 5 |
| | Magnesium (Filtered) | mg/L | | | 1.4 | 1.5 | 1.3 | 1.2 | 1.4 | 1.4 | 1.2 | 1.2 | 1.3 | 1.2 | 1.4 | 1.3 | 1.7 | 1.3 | 1.4 | 1.2 |
| | Mercury (Filtered) | µg/L | 1[#2] | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Molybdenum (Filtered) | µg/L | 70[#4] | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Nickel (Filtered) | µg/L | 20[#2] | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 3 | <2 | <2 | <2 | <2 | <2 |
| | Phosphorus | µg/L | 0.4[#5] | | **234** | **58** | **56** | **81** | **30** | **57** | **77** | **151** | **50** | **267** | **341** | **25** | **506** | **22** | **43** | **48** |
| | Phosphorus (Filtered) | µg/L | 0.4[#5] | | **6** | **10** | **7** | **11** | **9** | **9** | **10** | **9** | **7** | **11** | **8** | **9** | **6** | **6** | **15** | **15** |
| | Selenium (Filtered) | µg/L | 10[#2] | | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| | Sodium (Filtered) | mg/L | 200[#2] | | 6.9 | 6.9 | 7 | 6.8 | 7.3 | 7 | 5.8 | 6.6 | 6.3 | 5.9 | 6.9 | 6.3 | 6.5 | 15.4 | 16.9 | 8.9 |
| | Zinc | µg/L | 6,000[#5] | | 22 | 7 | 4 | 6 | 4 | <3 | 18 | 16 | 5 | 24 | 34 | 7 | 28 | <3 | 4 | 4 |
| | Zinc (Filtered) | µg/L | 6,000[#5] | | <3 | <3 | <3 | <3 | 4 | <3 | 12 | <3 | 5 | <3 | 7 | <3 | <3 | <3 | <3 | <3 |
| | Potassium (Filtered) | mg/L | | | 0.7 | 0.7 | 0.8 | 0.7 | 0.9 | 0.7 | 0.5 | 0.4 | 0.5 | 0.5 | 0.4 | 0.5 | 0.3 | 0.3 | 0.4 | 0.3 |
| | Chromium (hexavalent) | µg/L | Use Chromium (total)[#2] | | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| | Chromium (Trivalent) (Filtered) | µg/L | Use Chromium (total)[#2] | | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | 6 | <6 | <6 | <6 | <6 | <6 | <6 |
| Inorganics | Cyanide (Free) | mg/L | Use Cyanide Total[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Cyanide Total | mg/L | 0.05[#2] | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Fluoride | mg/L | 1.5[#2] | | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| | Sulphate | mg/L | 250[#2] | | 17.3 | 21.1 | 17.1 | 15.1 | 16 | 16.8 | 14.3 | 14.3 | 17.5 | 15.2 | 16.5 | 17.8 | 44.9 | 16.3 | 16 | 14.7 |
| | Chloride | mg/L | 250[#2] | | 12.6 | 20.3 | 13 | 12.3 | 13 | 12.5 | 11.4 | 11.6 | 12.4 | 12 | 14.4 | 13.5 | 15.8 | 30.1 | 28.1 | 17.3 |
| | Nitrate (as NO3-) | mg/L | 50[#2] | | 24 | 31.3 | 14 | 17.1 | 22.5 | 19.4 | 13.9 | 17.2 | 19 | 15.5 | 22.9 | 25.2 | 19.8 | 29.7 | 21.7 | 20.5 |
| | Nitrite (as NO2-) | mg/L | 0.5[#2] | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.12 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Alkalinity (total) as CaCO3 | mg/L | | | 244 | 224 | 271 | 243 | 212 | 213 | 260 | 328 | 200 | 452 | 31,500 | 11,100 | 58,800 | 248 | 248 | 221 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | | - | 205 | 220 | 166 | 212 | 220 | 244 | 214 | 126 | 212 | 210 | 210 | 220 | - | 230 | 204 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <50 | <50 | <50 | <1 | <1 | <1 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | | 244 | 224 | 271 | 243 | 212 | 213 | 260 | 328 | 200 | 452 | 31,500 | 11,100 | 58,800 | 248 | 248 | 221 |
| | Ammoniacal Nitrogen as N | mg/L | | | <0.03 | <0.03 | <0.03 | <0.03 | 0.05 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| | TDS | mg/L | | | 305 | 330 | 309 | 308 | 317 | 313 | 302 | 304 | 306 | 310 - 351 | 351 | 337 | 379 | 392 | 354 | 353 |
| Other | Electrical conductivity *(lab) | µS/cm | | | - | - | - | - | - | - | - | - | - | 473 | 490 | 505 | 561 | - | - | - |
| | Dissolved Organic Carbon | mg/L | | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 2 | <2 | <2 | <2 |
| | pH (Lab) | pH_Units | | | 7.65 | 7.04 | 6.66 | 7.02 | 7.68 | 7.77 | - | 7.71 | 7.84 | 7.8 | 7.58 | 7.81 | 7.5 | 7.58 | 6.94 | 7.68 |
| Field | Temp | oC | | | - | - | - | - | - | - | - | - | - | 11.74 | - | - | - | - | - | - |
| | Dissolved Oxygen | mg/L | | | - | - | - | - | - | - | - | - | - | 9.63 | - | - | - | - | - | - |
| MISC | Oxygen | mg/L | | | 10 | 11 | 10 | 10 | 10 | 10 | 9 | 9 | 9 | 10 | - | - | - | 11 | 9 | 9 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:AECOM DWG (WHO method)
#4:WHO DWG 2017
#5:USEPA RSL (tapwater) [May 2020]
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | | | | | | | | | | | | Statistical Summary | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | EC Protective of Groundwater (DWS) | Area 4 AS 19/05/2020 | Area 4 AS 30/07/2020 | Area 4 AS 20/01/2021 | Area 4 WS02 19/05/2020 | Area 4 WS02 28/07/2020 | Area 4 WS02 30/07/2020 | Area 4 WS02 22/10/2020 | Area 4 WS02 20/01/2021 | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| **Group** | **Determinand** | **Units** | | | | | | | | | | | | | |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | 12 | 0 | ND | 0 |
| | MRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | - | - | - | - | - | - | 0 | 0 | ND | 0 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | - | - | - | - | - | - | 10 | 1 | 0.15 | 0 |
| TPH | >C5-C6 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >C6-C8 Aliphatics | µg/L | 15,000[#1] | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >C8-C10 Aliphatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >C10-C12 Aliphatics | µg/L | 300[#1] | <5 | - | - | <5 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C12-C16 Aliphatics | µg/L | 300[#1] | <10 | - | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C16-C21 Aliphatics | µg/L | 300[#1] | <10 | - | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C16-C35 Aliphatics | µg/L | 300[#1] | <20 | - | - | <20 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C21-C35 Aliphatics | µg/L | 300[#1] | <10 | - | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >EC5-EC7 Aromatics | µg/L | 1[#2] | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >EC7-EC8 Aromatics | µg/L | 700[#1] | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >EC8-EC10 Aromatics | µg/L | 300[#1] | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >EC10-EC12 Aromatics | µg/L | 90[#1] | <5 | - | - | <5 | - | - | - | - | 14 | 0 | ND | 0 |
| | >EC12-EC16 Aromatics | µg/L | 90[#1] | <10 | - | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >EC16-EC21 Aromatics | µg/L | 90[#1] | <10 | - | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >EC21-EC35 Aromatics | µg/L | 90[#1] | <10 | - | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| VOC | MTBE | µg/L | 1,800[#3] | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Benzene | µg/L | 1[#2] | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Toluene | µg/L | 700[#4] | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Ethylbenzene | µg/L | 300[#4] | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Xylene Total | µg/L | 500[#4] | <10 | <10 | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | Xylene (o) | µg/L | 190[#5] | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| PAH | Naphthalene | µg/L | 6[#3] | <0.1 | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 23 | 0 | ND | 0 |
| | Acenaphthylene | µg/L | 18[#3] | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 23 | 0 | ND | 0 |
| | Acenaphthene | µg/L | 18[#3] | - | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 22 | 0 | ND | 0 |
| | Fluorene | µg/L | 12[#3] | <0.014 | <0.014 | <0.014 | <0.014 | - | <0.014 | <0.014 | <0.014 | 23 | 0 | ND | 0 |
| | Phenanthrene | µg/L | 4[#3] | - | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 22 | 0 | ND | 0 |
| | Anthracene | µg/L | 90[#3] | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 23 | 0 | ND | 0 |
| | Fluoranthene | µg/L | 4[#4] | <0.012 | <0.012 | <0.012 | <0.012 | - | <0.012 | <0.012 | <0.012 | 23 | 0 | ND | 0 |
| | Pyrene | µg/L | 9[#3] | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 23 | 0 | ND | 0 |
| | Benz(a)anthracene | µg/L | 3.5[#3] | <0.015 | <0.015 | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | 23 | 0 | ND | 0 |
| | Chrysene | µg/L | 7[#3] | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 23 | 0 | ND | 0 |
| | Benzo(a) pyrene | µg/L | 0.01[#2] | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | 23 | 0 | ND | 0 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 23 | 0 | ND | 0 |
| | Dibenz(a,h)anthracene | µg/L | 0.07[#3] | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| | Benzo(g,h,i)perylene | µg/L | Use PAHs (sum of 4)[#2] | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 23 | 0 | ND | 0 |
| | Benzo(b)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| | Benzo(k)fluoranthene | µg/L | Use PAHs (sum of 4)[#2] | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | - | <0.018 | <0.018 | <0.018 | 23 | 0 | ND | 0 |
| | PAHs (sum of 4) | µg/L | 0.1[#2] | <0.042 | <0.042 | <0.042 | <0.042 | - | <0.042 | <0.042 | <0.042 | 23 | 0 | ND | 0 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | - | <0.195 | <0.195 | <0.195 | 23 | 0 | ND | 0 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | - | <0.022 | <0.022 | <0.022 | 23 | 0 | ND | 0 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | 23 | 0 | ND | 0 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | <0.15 | <0.15 | - | <0.15 | <0.15 | <0.15 | 23 | 0 | ND | 0 |
| PCBs | PCB 118 | µg/L | 0.004[#5] | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 28 | µg/L | | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 52 | µg/L | | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 101 | µg/L | | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 138 | µg/L | | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 153 | µg/L | | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 180 | µg/L | | - | <0.1 | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | Total PCB 7 Congeners | µg/L | | - | <0.7 | <0.7 | <0.7 | - | <0.7 | <0.7 | <0.7 | 14 | 0 | ND | 0 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Azinophos methyl | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Carbophenothion | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Chlorfenvinphos | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Chlorpyrifos | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Chlorpyrifos-methyl | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Diazinon | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Dichlorvos | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Dimethoate | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Ethion | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Parathion | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Etrimphos | mg/L | 0.0001[#2] | - | <0.00001 | <0.00001 | <0.00001 | - | <0.00001 | <0.00001 | <0.00001 | 14 | 0 | ND | 0 |
| | Fenitrothion | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Fenthion | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Malathion | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Methyl parathion | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Mevinphos (Phosdrin) | µg/L | 0.1[#2] | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Phosalone | mg/L | 0.0001[#2] | - | <0.00001 | <0.00001 | <0.00001 | - | <0.00001 | <0.00001 | <0.00001 | 14 | 0 | ND | 0 |

| | | | | | | | | | | | | Statistical Summary | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | EC Protective of Groundwater (DWS) | Area 4 AS 19/05/2020 | Area 4 AS 30/07/2020 | Area 4 AS 20/01/2021 | Area 4 WS02 19/05/2020 | Area 4 WS02 28/07/2020 | Area 4 WS02 30/07/2020 | Area 4 WS02 22/10/2020 | Area 4 WS02 20/01/2021 | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances |
| | Pirimiphos-methyl | µg/L | 0.1 #2 | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Propetamphos | mg/L | 0.0001 #2 | - | <0.00001 | <0.00001 | <0.00001 | - | <0.00001 | <0.00001 | <0.00001 | 14 | 0 | ND | 0 |
| | Triazophos | mg/L | 0.0001 #2 | - | <0.00001 | <0.00001 | <0.00001 | - | <0.00001 | <0.00001 | <0.00001 | 14 | 0 | ND | 0 |
| | Disulfoton | µg/L | 0.1 #2 | - | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| Metals | Antimony (Filtered) | µg/L | 5 #2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | 23 | 3 | 4 | 0 |
| | Arsenic (Filtered) | µg/L | 10 #2 | <2.5 | <2.5 | <2.5 | <2.5 | - | <2.5 | <2.5 | <2.5 | 23 | 0 | ND | 0 |
| | Beryllium (Filtered) | µg/L | 12 #4 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 23 | 0 | ND | 0 |
| | Boron (Filtered) | µg/L | 1,000 #2 | 23 | 20 | 20 | 16 | - | <12 | 18 | 19 | 23 | 18 | 25 | 0 |
| | Cadmium | µg/L | 5 #2 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 23 | 0 | ND | 0 |
| | Cadmium (Filtered) | µg/L | 5 #2 | <0.5 | <0.5 | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 23 | 0 | ND | 0 |
| | Calcium (Filtered) | mg/L | | 104.7 | 100.5 | 101.7 | 106.2 | - | 93.8 | 96.2 | 102.7 | 23 | 23 | 112.8 | 0 |
| | Chromium (III+VI) (Filtered) | µg/L | 50 #2 | <1.5 | <1.5 | <1.5 | <1.5 | - | <1.5 | <1.5 | <1.5 | 23 | 1 | 6.3 | 0 |
| | Copper | µg/L | 2,000 #2 | <7 | <7 | <7 | 231 | - | 69 | <7 | <7 | 23 | 7 | 231 | 0 |
| | Copper (Filtered) | µg/L | 2,000 #2 | <7 | <7 | <7 | <7 | - | <7 | <7 | <7 | 23 | 0 | ND | 0 |
| | Iron | µg/L | 200 #2 | <20 | **431** | 30 | **151,600** | - | **83,120** | **18,160** | **365** | 23 | 20 | 151600 | 17 |
| | Iron (Filtered) | µg/L | 200 #2 | <20 | <20 | <20 | 69 | - | <20 | <20 | <20 | 21 | 1 | 69 | 0 |
| | Lead (Filtered) | µg/L | 10 #2 | <5 | <5 | <5 | <5 | - | <5 | <5 | <5 | 23 | 1 | 5 | 0 |
| | Magnesium (Filtered) | mg/L | | 1.3 | 1.3 | 1.3 | 1.3 | - | 1.3 | 1.2 | 1.3 | 23 | 23 | 1.7 | 0 |
| | Mercury (Filtered) | µg/L | 1 #2 | <1 | <1 | <1 | <1 | - | <1 | <1 | <1 | 23 | 0 | ND | 0 |
| | Molybdenum (Filtered) | µg/L | 70 #4 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | 23 | 0 | ND | 0 |
| | Nickel (Filtered) | µg/L | 20 #2 | <2 | <2 | <2 | <2 | - | <2 | <2 | <2 | 23 | 1 | 3 | 0 |
| | Phosphorus | µg/L | 0.4 #5 | **47** | **123** | **32** | **11,860** | - | **5045** | **1213** | **24** | 23 | 23 | 11860 | 23 |
| | Phosphorus (Filtered) | µg/L | 0.4 #5 | **11** | **12** | **18** | **33** | - | **18** | **10** | **13** | 23 | 23 | 33 | 23 |
| | Selenium (Filtered) | µg/L | 10 #2 | - | <3 | <3 | <3 | - | <3 | <3 | <3 | 22 | 0 | ND | 0 |
| | Sodium (Filtered) | mg/L | 200 #2 | 13.4 | 9.1 | 10.5 | 7.6 | - | 6.9 | 6.9 | 8 | 23 | 23 | 16.9 | 0 |
| | Zinc | µg/L | 6,000 #5 | <3 | 7 | 9 | 484 | - | 248 | 70 | 493 | 23 | 20 | 493 | 0 |
| | Zinc (Filtered) | µg/L | 6,000 #5 | <3 | <3 | 14 | <3 | - | 3 | <3 | 7 | 23 | 7 | 14 | 0 |
| | Potassium (Filtered) | mg/L | | 0.5 | 0.4 | 0.3 | 0.4 | - | 0.6 | 0.4 | 0.4 | 23 | 23 | 0.9 | 0 |
| | Chromium (hexavalent) | µg/L | Use Chromium (total) #2 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | 23 | 0 | ND | 0 |
| | Chromium (Trivalent) (Filtered) | µg/L | Use Chromium (total) #2 | <6 | <6 | <6 | <6 | - | <6 | <6 | <6 | 23 | 1 | 6 | 0 |
| Inorganics | Cyanide (Free) | mg/L | Use Cyanide Total #2 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| | Cyanide Total | mg/L | 0.05 #2 | <0.01 | <0.01 | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| | Fluoride | mg/L | 1.5 #2 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | - | <0.0003 | <0.0003 | <0.0003 | 23 | 0 | ND | 0 |
| | Sulphate | mg/L | 250 #2 | 15.5 | 14.3 | 15.4 | 15.1 | - | 14.5 | 13.7 | 14.9 | 23 | 23 | 44.900002 | 0 |
| | Chloride | mg/L | 250 #2 | 23.2 | 16.1 | 19.6 | 13.7 | - | 20.6 | 12.9 | 15.1 | 23 | 23 | 30.1 | 0 |
| | Nitrate (as NO3-) | mg/L | 50 #2 | 24.4 | 22.7 | 23.9 | 18.1 | - | 19.6 | 20.4 | 24.2 | 23 | 23 | 31.3 | 0 |
| | Nitrite (as NO2-) | mg/L | 0.5 #2 | <0.02 | <0.02 | <0.02 | <0.02 | - | <0.02 | <0.02 | <0.02 | 23 | 1 | 0.12 | 0 |
| | Alkalinity (total) as CaCO3 | mg/L | | 218 | 231 | 11,950 | 3056 | - | 4731 | 54,300 | 13,000 | 23 | 23 | 58800 | 0 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | 218 | 218 | 228 | 224 | - | 210 | 250 | 236 | 21 | 21 | 250 | 0 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <1 | <1 | <50 | <1 | - | <1 | <50 | <50 | 23 | 0 | ND | 0 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 218 | 231 | 11,950 | 3056 | - | 4731 | 54,300 | 13,000 | 23 | 23 | 58800 | 0 |
| | Ammoniacal Nitrogen as N | mg/L | | <0.03 | <0.03 | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | 23 | 1 | 0.05 | 0 |
| | TDS | mg/L | | 356 | 347 | 362 | 358 | 310 | 388 | 388 | 386 | 24 | 24 | 392 | 0 |
| Other | Electrical conductivity *(lab) | µS/cm | | - | 551 | 533 | - | - | 517 | 501 | 546 | 9 | 9 | 561 | 0 |
| | Dissolved Organic Carbon | mg/L | | <2 | <2 | <2 | 3 | - | <2 | <2 | <2 | 23 | 2 | 3 | 0 |
| | pH (Lab) | pH_Units | | 7.93 | 7.9 | 7.69 | 7.76 | - | 7.54 | 7.6 | 7.66 | 22 | 22 | 7.93 | 0 |
| Field | Temp | oC | | - | - | - | - | 12.14 | - | - | - | 2 | 2 | 12.14 | 0 |
| | Dissolved Oxygen | mg/L | | - | - | - | - | 6.63 | - | - | - | 2 | 2 | 9.63 | 0 |
| MISC | Oxygen | mg/L | | 9 | 7 | - | 9 | - | 8 | - | - | 17 | 17 | 11 | 0 |

**Env Stds Comments**
#1:WHO Petroleum DWG 2008
#2:WS Regs 2016 (Eng/Wal)
#3:AECOM DWG (WHO method)
#4:WHO DWG 2017
#5:USEPA RSL (tapwater) [May 2020]
EC: Evaluation Criteria
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**
**XXX** Exceedance of EC Protective of Groundwater

| | | | Monitoring Zone | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | AS | AS | AS | AS | AS |
| | | | Date | 22/02/2018 | 12/04/2018 | 12/06/2018 | 16/08/2018 | 29/01/2019 | 15/04/2019 | 16/07/2019 | 09/10/2019 | 18/05/2020 | 28/07/2020 | 27/10/2020 | 19/01/2021 | 26/01/2021 | 26/01/2018 | 14/06/2018 | 13/01/2020 | 19/05/2020 | 30/07/2020 |
| **Group** | **Determinand** | **Units** | EC Protective of Surface Water (EQS) | | | | | | | | | | | | | | | | | | |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | - | - | - | - | - | - | - | - | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | - | - | - | <0.03 | <0.03 |
| | MRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | <0.06 | <0.06 | 0.15 | <0.06 | <0.06 | - | <0.03 | <0.03 | - | - | - | - | - | <0.06 | <0.06 | <0.03 | - | - |
| TPH | >C5-C6 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C6-C8 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C8-C10 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C10-C12 Aliphatics | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | <5 | <5 | <5 | <5 | - |
| | >C12-C16 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 | <10 | - |
| | >C16-C21 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 | <10 | - |
| | >C16-C35 Aliphatics | µg/L | | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | - | - | - | <20 | <20 | <20 | <20 | - |
| | >C21-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 | <10 | - |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC5-EC7 Aromatics | µg/L | 10[#1] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC7-EC8 Aromatics | µg/L | 74[#2] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC8-EC10 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >EC10-EC12 Aromatics | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | - | - | - | - | <5 | <5 | <5 | <5 | - |
| | >EC12-EC16 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 | <10 | - |
| | >EC16-EC21 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 | <10 | - |
| | >EC21-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | - | - | - | - | <10 | <10 | <10 | <10 | - |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| VOC | MTBE | µg/L | 5,100[#3] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Benzene | µg/L | 10[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Toluene | µg/L | 74[#2] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Ethylbenzene | µg/L | 20[#4] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene (m & p) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Xylene Total | µg/L | 30[#4] | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | Xylene (o) | µg/L | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| PAH | Naphthalene | µg/L | 2[#1] | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| | Acenaphthylene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Acenaphthene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | - | <0.013 |
| | Fluorene | µg/L | | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 | <0.014 |
| | Phenanthrene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | - | <0.011 |
| | Anthracene | µg/L | 0.1[#1] | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Fluoranthene | µg/L | 0.0063[#1] | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| | Pyrene | µg/L | | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 | <0.013 |
| | Benz(a)anthracene | µg/L | | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 | <0.015 |
| | Chrysene | µg/L | | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(a) pyrene | µg/L | 0.00017[#1] | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Dibenz(a,h)anthracene | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 | <0.011 |
| | Benzo(b)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | p[;'# | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(k)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 | <0.018 |
| | PAHs (sum of 4) | µg/L | | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 | <0.042 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 | <0.195 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 | <0.022 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 | <0.016 |
| SVOC | Total Phenols | µg/L | | <0.1 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.1 | <0.15 | <0.15 | <0.15 | <0.15 |
| PCBs | PCB 118 | µg/L | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 |
| | PCB 28 | µg/L | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 |
| | PCB 52 | µg/L | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 |
| | PCB 101 | µg/L | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 |
| | PCB 138 | µg/L | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 |
| | PCB 153 | µg/L | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 |
| | PCB 180 | µg/L | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.1 | - | <0.1 |
| | Total PCB 7 Congeners | µg/L | | <0.7 | <0.7 | <0.7 | <0.7 | <0.7 | - | - | - | - | - | - | - | - | <0.7 | <0.7 | <0.7 | - | <0.7 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.02 | <0.03 | - | <0.01 |
| | Azinophos methyl | µg/L | 0.01[#4] | <0.01 | <0.02 | <0.05 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.1 | <0.03 | - | <0.01 |
| | Carbophenothion | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Chlorfenvinphos | µg/L | 0.1[#1] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Chlorpyrifos | µg/L | 0.03[#1] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Chlorpyrifos-methyl | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Diazinon | µg/L | 0.01[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Dichlorvos | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.02 | <0.03 | - | <0.01 |
| | Dimethoate | µg/L | 0.48[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Ethion | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Parathion | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Etrimphos | mg/L | | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | <0.00003 | - | <0.00001 |

| | | | Monitoring Zone | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | R507A | AS | AS | AS | AS | AS |
| | | | Date | 22/02/2018 | 12/04/2018 | 12/06/2018 | 16/08/2018 | 29/01/2019 | 15/04/2019 | 16/07/2019 | 09/10/2019 | 18/05/2020 | 28/07/2020 | 27/10/2020 | 19/01/2021 | 26/01/2021 | 26/01/2018 | 14/06/2018 | 13/01/2020 | 19/05/2020 | 30/07/2020 |
| **Group** | **Determinand** | **Units** | EC Protective of Surface Water (EQS) | | | | | | | | | | | | | | | | | | | |
| | Fenitrothion | µg/L | 0.01[#4] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Fenthion | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Malathion | µg/L | 0.01[#4] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Methyl parathion | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Mevinphos (Phosdrin) | µg/L | 0.02[#7] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Phosalone | mg/L | | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | <0.00003 | - | <0.00001 |
| | Pirimiphos-methyl | µg/L | 0.015[#4] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| | Propetamphos | mg/L | 0.00003[#4] | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | <0.00003 | - | <0.00001 |
| | Triazophos | mg/L | 0.000005[#4] | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | - | - | - | - | - | - | - | - | <0.00001 | <0.00001 | <0.00003 | - | <0.00001 |
| | Disulfoton | µg/L | | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | - | - | - | - | - | - | - | - | <0.01 | <0.01 | <0.03 | - | <0.01 |
| Metals | Antimony (Filtered) | µg/L | | <2 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 4 | <2 | <2 | <2 | <2 | <2 | 3 | <2 | <2 |
| | Arsenic (Filtered) | µg/L | 50[#2] | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 | <2.5 |
| | Beryllium (Filtered) | µg/L | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Boron (Filtered) | µg/L | 2,000[#4] | 21 | 12 | <12 | 14 | 20 | 17 | 12 | <12 | 14 | <12 | 15 | 25 | <12 | 17 | 15 | 13 | 23 | 20 |
| | Cadmium | µg/L | 0.08[#1] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Cadmium (Filtered) | µg/L | 0.08[#1] | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | Calcium (Filtered) | mg/L | | 92.8 | 100.8 | 98 | 99.8 | 103.1 | 104.3 | 88.2 | 95.7 | 95.4 | 86.9 | 90.8 | 96.3 | 109.7 | 101.1 | 112.8 | 101.4 | 104.7 | 100.5 |
| | Chromium (III+VI) (Filtered) | µg/L | | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | 6.3 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 | <1.5 |
| | Copper | µg/L | 1[#2] | **16** | <7 | <7 | <7 | <7 | <7 | <7 | **8** | <7 | **14** | **15** | <7 | **14** | <7 | <7 | <7 | <7 | <7 | <7 |
| | Copper (Filtered) | µg/L | 1[#2] | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 | <7 |
| | Iron | µg/L | 1,000[#2] | **5055** | 518 | 661 | **1152** | 242 | 75 | 857 | **3062** | 437 | **4992** | **6133** | 501 | **4303** | 21 | <20 | <20 | <20 | 431 |
| | Iron (Filtered) | µg/L | 1,000[#2] | - | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | - | <20 | <20 | <20 | <20 | <20 |
| | Lead (Filtered) | µg/L | 1.2[#1] | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | **5** | <5 | <5 |
| | Magnesium (Filtered) | mg/L | | 1.4 | 1.5 | 1.3 | 1.2 | 1.4 | 1.4 | 1.2 | 1.2 | 1.3 | 1.2 | 1.4 | 1.3 | 1.7 | 1.3 | 1.4 | 1.2 | 1.3 | 1.3 |
| | Mercury (Filtered) | µg/L | 0.07[#6] | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| | Molybdenum (Filtered) | µg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Nickel (Filtered) | µg/L | 4[#1] | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 3 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | Phosphorus | µg/L | See source document[#1] | 234 | 58 | 56 | 81 | 30 | 57 | 77 | 151 | 50 | 267 | 341 | 25 | 506 | 22 | 43 | 48 | 47 | 123 |
| | Phosphorus (Filtered) | µg/L | See source document[#1] | 6 | 10 | 7 | 11 | 9 | 9 | 10 | 9 | 7 | 11 | 8 | 9 | 6 | 6 | 15 | 15 | 11 | 12 |
| | Selenium (Filtered) | µg/L | | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | - | <3 |
| | Sodium (Filtered) | mg/L | | 6.9 | 6.9 | 7 | 6.8 | 7.3 | 7 | 5.8 | 6.6 | 6.3 | 5.9 | 6.9 | 6.3 | 6.5 | 15.4 | 16.9 | 8.9 | 13.4 | 9.1 |
| | Zinc | µg/L | 10.9[#2] | **22** | 7 | 4 | 6 | 4 | <3 | **18** | **16** | 5 | **24** | **34** | 7 | **28** | <3 | 4 | 4 | <3 | 7 |
| | Zinc (Filtered) | µg/L | 10.9[#2] | <3 | <3 | <3 | <3 | 4 | <3 | **12** | <3 | 5 | <3 | 7 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| | Potassium (Filtered) | mg/L | | 0.7 | 0.7 | 0.8 | 0.7 | 0.9 | 0.7 | 0.5 | 0.4 | 0.5 | 0.5 | 0.4 | 0.5 | 0.3 | 0.3 | 0.4 | 0.3 | 0.5 | 0.4 |
| | Chromium (hexavalent) | µg/L | 3.4[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| | Chromium (Trivalent) (Filtered) | µg/L | 4.7[#2] | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 | **6** | <6 | <6 | <6 | <6 | <6 | <6 | <6 | <6 |
| Inorganics | Cyanide (Free) | mg/L | 0.001[#4] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Cyanide Total | mg/L | 0.001[#2] | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| | Fluoride | mg/L | 1[#4] | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| | Sulphate | mg/L | 400[#4] | 17.3 | 21.1 | 17.1 | 15.1 | 16 | 16.8 | 14.3 | 14.3 | 17.5 | 15.2 | 16.5 | 17.8 | 44.9 | 16.3 | 16 | 14.7 | 15.5 | 14.3 |
| | Chloride | mg/L | 250[#4] | 12.6 | 20.3 | 13 | 12.3 | 13 | 12.5 | 11.4 | 11.6 | 12.4 | 12 | 14.4 | 13.5 | 15.8 | 30.1 | 28.1 | 17.3 | 23.2 | 16.1 |
| | Nitrate (as NO3-) | mg/L | | 24 | 31.3 | 14 | 17.1 | 22.5 | 19.4 | 13.9 | 17.2 | 19 | 15.5 | 22.9 | 25.2 | 19.8 | 29.7 | 21.7 | 20.5 | 24.4 | 22.7 |
| | Nitrite (as NO2-) | mg/L | | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | 0.12 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 | <0.02 |
| | Alkalinity (total) as CaCO3 | mg/L | | 244 | 224 | 271 | 243 | 212 | 213 | 260 | 328 | 200 | 452 | 31,500 | 11,100 | 58,800 | 248 | 248 | 221 | 218 | 231 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | - | 205 | 220 | 166 | 212 | 220 | 244 | 214 | 126 | 212 | 210 | 210 | 220 | - | 230 | 204 | 218 | 218 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <50 | <50 | <50 | <1 | <1 | <1 | <1 | <1 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 244 | 224 | 271 | 243 | 212 | 213 | 260 | 328 | 200 | 452 | 31,500 | 11,100 | 58,800 | 248 | 248 | 221 | 218 | 231 |
| | Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | <0.03 | <0.03 | <0.03 | <0.03 | 0.05 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 | <0.03 |
| | TDS | mg/L | | 305 | 330 | 309 | 308 | 317 | 313 | 302 | 304 | 306 | 310 - 351 | 351 | 337 | 379 | 392 | 354 | 353 | 356 | 347 |
| Other | Electrical conductivity *(lab) | µS/cm | | - | - | - | - | - | - | - | - | - | 473 | 490 | 505 | 561 | - | - | - | - | 551 |
| | Dissolved Organic Carbon | mg/L | | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 2 | <2 | <2 | <2 | <2 | <2 |
| | pH (Lab) | pH_Units | | 7.65 | 7.04 | 6.66 | 7.02 | 7.68 | 7.77 | - | 7.71 | 7.84 | 7.8 | 7.58 | 7.81 | 7.5 | 7.58 | 6.94 | 7.68 | 7.93 | 7.9 |
| Field | Temp | oC | | - | - | - | - | - | - | - | - | - | 11.74 | - | - | - | - | - | - | - | - |
| | Dissolved Oxygen | mg/L | | - | - | - | - | - | - | - | - | - | 9.63 | - | - | - | - | - | - | - | - |
| MISC | Oxygen | mg/L | | 10 | 11 | 10 | 10 | 10 | 10 | 9 | 9 | 9 | 10 | - | - | - | 11 | 9 | 9 | 9 | 7 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
#7:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

**Key**
**XXX** Exceedance of EC Protective of Surface Water

| | | | Monitoring Zone | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | AS | WS02 | WS02 | WS02 | WS02 | WS02 | | | | |
| | | | Date | 20/01/2021 | 19/05/2020 | 28/07/2020 | 30/07/2020 | 22/10/2020 | 20/01/2021 | Statistical Summary | | | |
| Group | Determinand | Units | EC Protective of Surface Water (EQS) | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| NA | MRP Ortho Phosphate as P (total) | mg P /L | | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | 12 | 0 | ND | 0 |
| | MRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | - | - | - | - | 0 | 0 | ND | 0 |
| | SRP Ortho Phosphate as PO4 (total) | mg/L | | - | - | - | - | - | - | 10 | 1 | 0.15 | 0 |
| TPH | >C5-C6 Aliphatics | µg/L | | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >C6-C8 Aliphatics | µg/L | | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >C8-C10 Aliphatics | µg/L | | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >C10-C12 Aliphatics | µg/L | | - | <5 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C12-C16 Aliphatics | µg/L | | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C16-C21 Aliphatics | µg/L | | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C16-C35 Aliphatics | µg/L | | - | <20 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C21-C35 Aliphatics | µg/L | | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >C5-C35 Aliphatics | µg/L | | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >EC5-EC7 Aromatics | µg/L | 10[#1] | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >EC7-EC8 Aromatics | µg/L | 74[#2] | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >EC8-EC10 Aromatics | µg/L | | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >EC10-EC12 Aromatics | µg/L | | - | <5 | - | - | - | - | 14 | 0 | ND | 0 |
| | >EC12-EC16 Aromatics | µg/L | | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >EC16-EC21 Aromatics | µg/L | | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >EC21-EC35 Aromatics | µg/L | | - | <10 | - | - | - | - | 14 | 0 | ND | 0 |
| | >EC5-EC35 Aromatics | µg/L | | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | >C5-C35 Aliphatics & Aromatics | µg/L | | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| VOC | MTBE | µg/L | 5,100[#3] | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Benzene | µg/L | 10[#1] | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Toluene | µg/L | 74[#2] | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Ethylbenzene | µg/L | 20[#4] | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Xylene (m & p) | µg/L | | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| | Xylene Total | µg/L | 30[#4] | <10 | <10 | - | <10 | <10 | <10 | 23 | 0 | ND | 0 |
| | Xylene (o) | µg/L | | <5 | <5 | - | <5 | <5 | <5 | 23 | 0 | ND | 0 |
| PAH | Naphthalene | µg/L | 2[#1] | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 23 | 0 | ND | 0 |
| | Acenaphthylene | µg/L | | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 23 | 0 | ND | 0 |
| | Acenaphthene | µg/L | | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 22 | 0 | ND | 0 |
| | Fluorene | µg/L | | <0.014 | <0.014 | - | <0.014 | <0.014 | <0.014 | 23 | 0 | ND | 0 |
| | Phenanthrene | µg/L | | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 22 | 0 | ND | 0 |
| | Anthracene | µg/L | 0.1[#1] | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 23 | 0 | ND | 0 |
| | Fluoranthene | µg/L | 0.0063[#1] | <0.012 | <0.012 | - | <0.012 | <0.012 | <0.012 | 23 | 0 | ND | 0 |
| | Pyrene | µg/L | | <0.013 | <0.013 | - | <0.013 | <0.013 | <0.013 | 23 | 0 | ND | 0 |
| | Benz(a)anthracene | µg/L | | <0.015 | <0.015 | - | <0.015 | <0.015 | <0.015 | 23 | 0 | ND | 0 |
| | Chrysene | µg/L | | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 23 | 0 | ND | 0 |
| | Benzo(a) pyrene | µg/L | 0.00017[#1] | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | 23 | 0 | ND | 0 |
| | Indeno(1,2,3-c,d)pyrene | µg/L | see BaP and notes[#5] | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 23 | 0 | ND | 0 |
| | Dibenz(a,h)anthracene | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| | Benzo(g,h,i)perylene | µg/L | 0.0082[#6] | <0.011 | <0.011 | - | <0.011 | <0.011 | <0.011 | 23 | 0 | ND | 0 |
| | Benzo(b)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 22 | 0 | ND | 0 |
| | Benzo(k)fluoranthene | µg/L | 0.017[#6] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| | Benzo(b)&(k)fluoranthene | µg/L | | <0.018 | <0.018 | - | <0.018 | <0.018 | <0.018 | 23 | 0 | ND | 0 |
| | PAHs (sum of 4) | µg/L | | <0.042 | <0.042 | - | <0.042 | <0.042 | <0.042 | 23 | 0 | ND | 0 |
| | PAH 16 Total | µg/L | | <0.195 | <0.195 | - | <0.195 | <0.195 | <0.195 | 23 | 0 | ND | 0 |
| | benzo(g,h,i)perylene + indeno(1,2,3-cd)pyrene | µg/L | | <0.022 | <0.022 | - | <0.022 | <0.022 | <0.022 | 23 | 0 | ND | 0 |
| | Benzo(a)pyrene (surrogate marker for PAH mixture) | µg/L | | <0.016 | <0.016 | - | <0.016 | <0.016 | <0.016 | 23 | 0 | ND | 0 |
| SVOC | Total Phenols | µg/L | | <0.15 | <0.15 | - | <0.15 | <0.15 | <0.15 | 23 | 0 | ND | 0 |
| PCBs | PCB 118 | µg/L | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 28 | µg/L | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 52 | µg/L | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 101 | µg/L | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 138 | µg/L | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 153 | µg/L | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | PCB 180 | µg/L | | <0.1 | <0.1 | - | <0.1 | <0.1 | <0.1 | 14 | 0 | ND | 0 |
| | Total PCB 7 Congeners | µg/L | | <0.7 | <0.7 | - | <0.7 | <0.7 | <0.7 | 14 | 0 | ND | 0 |
| Herbicides and Pesticides | Azinphos Ethyl | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Azinophos methyl | µg/L | 0.01[#4] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Carbophenothion | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Chlorfenvinphos | µg/L | 0.1[#1] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Chlorpyrifos | µg/L | 0.03[#1] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Chlorpyrifos-methyl | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Diazinon | µg/L | 0.01[#2] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Dichlorvos | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Dimethoate | µg/L | 0.48[#2] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Ethion | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Parathion | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Etrimphos | mg/L | | <0.00001 | <0.00001 | - | <0.00001 | <0.00001 | <0.00001 | 14 | 0 | ND | 0 |

| | | | Monitoring Zone | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Area 4 | Statistical Summary | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location | AS | WS02 | WS02 | WS02 | WS02 | WS02 | | | | |
| | | | Date | 20/01/2021 | 19/05/2020 | 28/07/2020 | 30/07/2020 | 22/10/2020 | 20/01/2021 | | | | |
| Group | Determinand | Units | EC Protective of Surface Water (EQS) | | | | | | | Number of Results | Number of Detects | Maximum Detect | Number of Guideline Exceedances (Detects Only) |
| | Fenitrothion | µg/L | 0.01[#4] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Fenthion | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Malathion | µg/L | 0.01[#4] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Methyl parathion | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Mevinphos (Phosdrin) | µg/L | 0.02[#7] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Phosalone | mg/L | | <0.00001 | <0.00001 | - | <0.00001 | <0.00001 | <0.00001 | 14 | 0 | ND | 0 |
| | Pirimiphos-methyl | µg/L | 0.015[#4] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| | Propetamphos | mg/L | 0.00003[#4] | <0.00001 | <0.00001 | - | <0.00001 | <0.00001 | <0.00001 | 14 | 0 | ND | 0 |
| | Triazophos | mg/L | 0.000005[#4] | <0.00001 | <0.00001 | - | <0.00001 | <0.00001 | <0.00001 | 14 | 0 | ND | 0 |
| | Disulfoton | µg/L | | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 14 | 0 | ND | 0 |
| Metals | Antimony (Filtered) | µg/L | | <2 | <2 | - | <2 | <2 | <2 | 23 | 3 | 4 | 0 |
| | Arsenic (Filtered) | µg/L | 50[#2] | <2.5 | <2.5 | - | <2.5 | <2.5 | <2.5 | 23 | 0 | ND | 0 |
| | Beryllium (Filtered) | µg/L | | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 23 | 0 | ND | 0 |
| | Boron (Filtered) | µg/L | 2,000[#4] | 20 | 16 | - | <12 | 18 | 19 | 23 | 18 | 25 | 0 |
| | Cadmium | µg/L | 0.08[#1] | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 23 | 0 | ND | 0 |
| | Cadmium (Filtered) | µg/L | 0.08[#1] | <0.5 | <0.5 | - | <0.5 | <0.5 | <0.5 | 23 | 0 | ND | 0 |
| | Calcium (Filtered) | mg/L | | 101.7 | 106.2 | - | 93.8 | 96.2 | 102.7 | 23 | 23 | 112.8 | 0 |
| | Chromium (III+VI) (Filtered) | µg/L | | <1.5 | <1.5 | - | <1.5 | <1.5 | <1.5 | 23 | 1 | 6.3 | 0 |
| | Copper | µg/L | 1[#2] | <7 | **231** | - | **69** | <7 | <7 | 23 | 7 | 231 | 7 |
| | Copper (Filtered) | µg/L | 1[#2] | <7 | <7 | - | <7 | <7 | <7 | 23 | 0 | ND | 0 |
| | Iron | µg/L | 1,000[#2] | 30 | **151,600** | - | **83,120** | **18,160** | 365 | 23 | 20 | 151600 | 9 |
| | Iron (Filtered) | µg/L | 1,000[#2] | <20 | 69 | - | <20 | <20 | <20 | 21 | 1 | 69 | 0 |
| | Lead (Filtered) | µg/L | 1.2[#1] | <5 | <5 | - | <5 | <5 | <5 | 23 | 1 | 5 | 1 |
| | Magnesium (Filtered) | mg/L | | 1.3 | 1.3 | - | 1.3 | 1.2 | 1.3 | 23 | 23 | 1.7 | 0 |
| | Mercury (Filtered) | µg/L | 0.07[#6] | <1 | <1 | - | <1 | <1 | <1 | 23 | 0 | ND | 0 |
| | Molybdenum (Filtered) | µg/L | | <2 | <2 | - | <2 | <2 | <2 | 23 | 0 | ND | 0 |
| | Nickel (Filtered) | µg/L | 4[#1] | <2 | <2 | - | <2 | <2 | <2 | 23 | 1 | 3 | 0 |
| | Phosphorus | µg/L | See source document[#1] | 32 | 11,860 | - | 5045 | 1213 | 24 | 23 | 23 | 11860 | 0 |
| | Phosphorus (Filtered) | µg/L | See source document[#1] | 18 | 33 | - | 18 | 10 | 13 | 23 | 23 | 33 | 0 |
| | Selenium (Filtered) | µg/L | | <3 | <3 | - | <3 | <3 | <3 | 22 | 0 | ND | 0 |
| | Sodium (Filtered) | mg/L | | 10.5 | 7.6 | - | 6.9 | 6.9 | 8 | 23 | 23 | 16.9 | 0 |
| | Zinc | µg/L | 10.9[#2] | 9 | **484** | - | **248** | **70** | **493** | 23 | 20 | 493 | 10 |
| | Zinc (Filtered) | µg/L | 10.9[#2] | **14** | <3 | - | 3 | <3 | 7 | 23 | 7 | 14 | 2 |
| | Potassium (Filtered) | mg/L | | 0.3 | 0.4 | - | 0.6 | 0.4 | 0.4 | 23 | 23 | 0.9 | 0 |
| | Chromium (hexavalent) | µg/L | 3.4[#2] | <6 | <6 | - | <6 | <6 | <6 | 23 | 0 | ND | 0 |
| | Chromium (Trivalent) (Filtered) | µg/L | 4.7[#2] | <6 | <6 | - | <6 | <6 | <6 | 23 | 1 | 6 | 1 |
| Inorganics | Cyanide (Free) | mg/L | 0.001[#4] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| | Cyanide Total | mg/L | 0.001[#2] | <0.01 | <0.01 | - | <0.01 | <0.01 | <0.01 | 23 | 0 | ND | 0 |
| | Fluoride | mg/L | 1[#4] | <0.0003 | <0.0003 | - | <0.0003 | <0.0003 | <0.0003 | 23 | 0 | ND | 0 |
| | Sulphate | mg/L | 400[#4] | 15.4 | 15.1 | - | 14.5 | 13.7 | 14.9 | 23 | 23 | 44.9 | 0 |
| | Chloride | mg/L | 250[#4] | 19.6 | 13.7 | - | 20.6 | 12.9 | 15.1 | 23 | 23 | 30.1 | 0 |
| | Nitrate (as NO3-) | mg/L | | 23.9 | 18.1 | - | 19.6 | 20.4 | 24.2 | 23 | 23 | 31.3 | 0 |
| | Nitrite (as NO2-) | mg/L | | <0.02 | <0.02 | - | <0.02 | <0.02 | <0.02 | 23 | 1 | 0.12 | 0 |
| | Alkalinity (total) as CaCO3 | mg/L | | 11,950 | 3056 | - | 4731 | 54,300 | 13,000 | 23 | 23 | 58800 | 0 |
| | Alkalinity (total) as CaCO3 (Filtered) | mg/L | | 228 | 224 | - | 210 | 250 | 236 | 21 | 21 | 250 | 0 |
| | Alkalinity (Carbonate as CaCO3) | mg/L | | <50 | <1 | - | <1 | <50 | <50 | 23 | 0 | ND | 0 |
| | Alkalinity (Bicarbonate as CaCO3) | mg/L | | 11,950 | 3056 | - | 4731 | 54,300 | 13,000 | 23 | 23 | 58800 | 0 |
| | Ammoniacal Nitrogen as N | mg/L | 300 (total ammonia as nitrogen)[#2] | <0.03 | <0.03 | - | <0.03 | <0.03 | <0.03 | 23 | 1 | 0.05 | 0 |
| | TDS | mg/L | | 362 | 358 | 310 | 388 | 388 | 386 | 24 | 24 | 392 | 0 |
| Other | Electrical conductivity *(lab) | µS/cm | | 533 | - | - | 517 | 501 | 546 | 9 | 9 | 561 | 0 |
| | Dissolved Organic Carbon | mg/L | | <2 | 3 | - | <2 | <2 | <2 | 23 | 2 | 3 | 0 |
| | pH (Lab) | pH_Units | | 7.69 | 7.76 | - | 7.54 | 7.6 | 7.66 | 22 | 22 | 7.93 | 0 |
| Field | Temp | oC | | - | - | 12.14 | - | - | - | 2 | 2 | 12.14 | 0 |
| | Dissolved Oxygen | mg/L | | - | - | 6.63 | - | - | - | 2 | 2 | 9.63 | 0 |
| MISC | Oxygen | mg/L | | - | 9 | - | 8 | - | - | 17 | 17 | 11 | 0 |

**Env Stds Comments**
#1:WFD England/Wales. 2015 - AA-EQS Inland
#2:WFD England/Wales. 2015 - Freshwater Standards
#3:PNEC (EU REACH) - Freshwater
#4:SEPA WAT-SG-53 Fresh EQS - AA - 2015
#5:Water Env't Regs (Scotland) 2015. AA-EQS Inland
#6:WFD England/Wales. 2015 - MAC-EQS Inland
#7:SEPA WAT-SG-53 Fresh EQS - MAC - 2015
EC: Evaluation Criteria
EQS: Environmental Quality Standard
(blank): No assessment criteria available
ND: Non-detect
- : Not analysed
Where EQL value not present refer to value with '<' symbol for EQL.

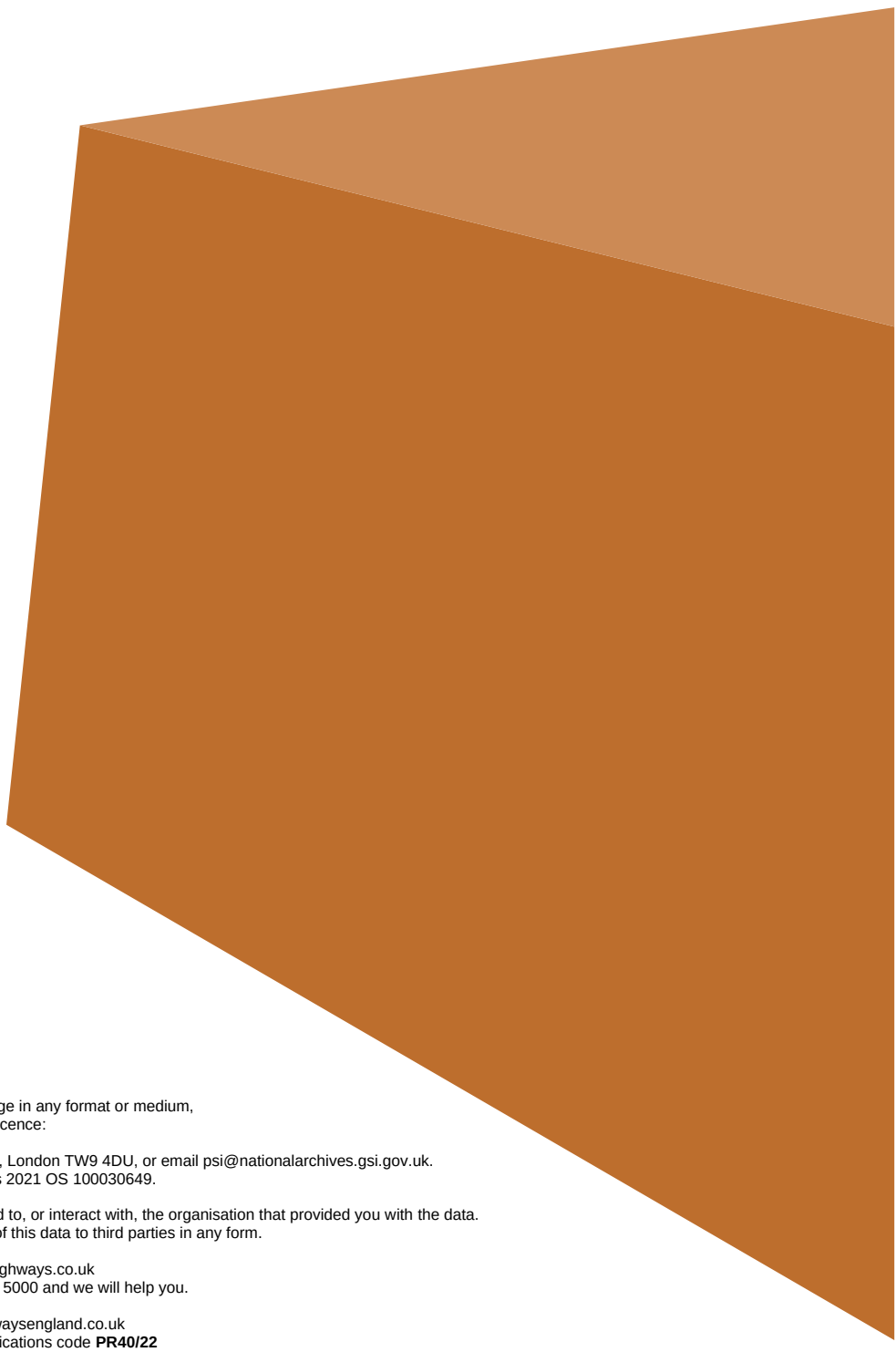
**Key**
**XXX** Exceedance of EC Protective of Surface Water

# Appendix I Holding Time Exceedances

### Table I1-1 Potentially deviating samples

| Phase | Potentially deviating samples | | | |
|---|---|---|---|---|
| Phase 6 [15]<br>Phase 7 [15] | For a number of leachate samples (comprising orthophosphate and major ions), the sample date on the laboratory certificates is reported as “deviating”. This suggests that the samples were not analysed within the necessary time frame from point of sampling to testing at the laboratory. However, enquiries were made with the laboratory who confirmed that for the tests completed there is no specific holding time therefore the deviating sample references should not apply. | | | |
| Phase 7A Countess [16] | Two soil samples (BH72404, 0.1m and BH72502, 0.1m) recorded exceedances of holding time (14 days) for TPH aliphatics/aromatics; benzene, toluene, ethylbenzene and xylene (BTEX); PAH and cyanide.<br>Exceedances of the holding time (7 days) for pH and conductivity in some soil samples. | | | |
| Phase 7Ai [17] | Exceedances of the holding time (7 days) for pH and conductivity in some soil samples.<br>One soil sample (R71903, 0.1m) recorded exceedance of holding time (7 days) for VOC.<br>Exceedances of the holding time (between 1 and 2 days) for pH, total dissolved solids (TDS), nitrate and conductivity in some water samples.<br>One water sample (CP71302) recorded exceedance of holding time for alkalinity (7 days); hexavalent chromium (4 days); dissolved oxygen (2 days); pesticides (7 days) and PAH (4 days). | | | |
| Phase 7Aii [18] | Exceedances of the holding time (7 days) for pH and conductivity in some soil samples. | | | |
| Phase 7B - 2020 [19] | For Phase 7B, many soil samples exceeded the holding times. These have been summarised in the table below; | | | |
| | **Determinand** | **Holding time (days)** | **Total number scheduled** | **Total number exceeding the holding time** |
| | Hexavalent chromium | 30 | 63 | 15 |
| | Boron | 28 | 63 | 17 |
| | Mercury | 28 | 63 | 22 |
| | Ammonia | 28 | 63 | 16 |
| | Sulphate | 28 | 63 | 13 |
| | TOC | 28 | 63 | 19 |
| | Cyanide | 14 | 63 | 43 |
| | PAH | 14 | 62 | 40 |
| | Phenol | 14 | 62 | 42 |
| | TPH CWG gasoline range organics (GRO) portion/BTEX | 14 | 61 | 40 |

| Phase | Potentially deviating samples | | | |
|---|---|---|---|---|
| | VOC | 14 | 23 | 12 |
| | The holding time for asbestos, atrazine, simazine, pesticides, SVOC, metals, TPH CWG heavy end is 182 days.<br><br>* Note that whilst pesticides, SVOC and TPH CWG (heavy end) have a 182 day holding time, this is because these tests are unaccredited and therefore a nominal 182 days is given in the absence of a holding time attached to the testing. However, it is expected that these contaminants would degrade over a shorter time period than this (due to their volatile nature), putting the validity of these results into question. These are not included in the above table as the holding time did not exceed 182 days for any sample scheduled, although holding times of up to around 90 days were reported for these determinands.<br><br>* With regards to the leachate samples, similar applies in that there is no specific holding time for any of the determinands as there is no accreditation for any leachate analysis, however it is recommended that these are scheduled within the holding time (equivalent of the soils analysis) to avoid any samples which may lose components due to their volatile nature. These are not included in the above table as the holding time did not exceed 182 days for any sample scheduled, although holding times of up to around 90 days were reported for the leachate determinands. | | | |



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