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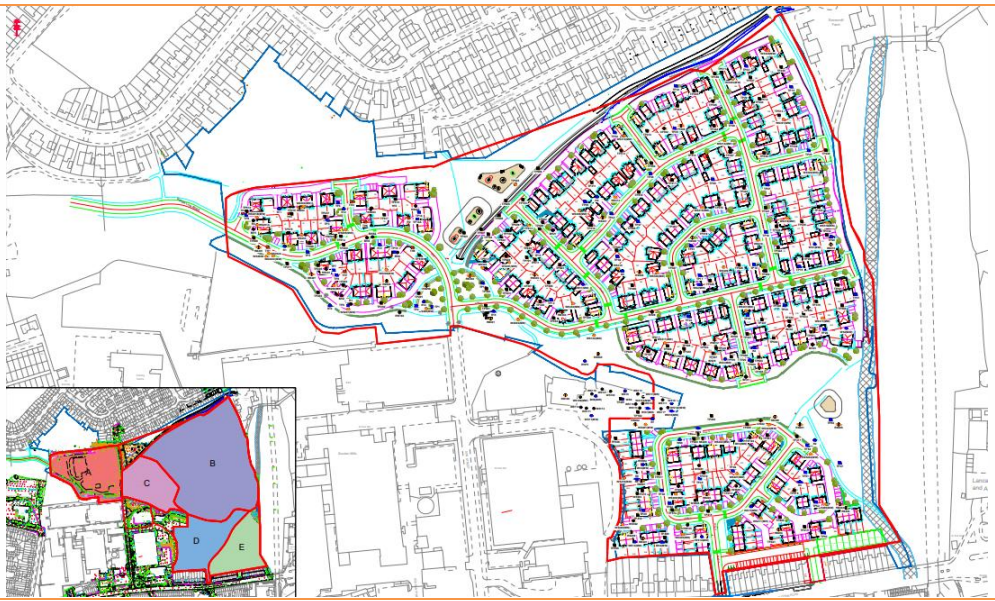
Kellen Homes
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SUPPLEMENTARY ASSESSMENT
DON STREET, MIDDLETON

1. INTRODUCTION

It is understood that Kellen Homes are proposing to develop the site off Donn Street, Middleton for residential end-use with associated highways and infrastructure. A proposed development plan is provided in Figure 1.1 and attached to this letter.

FIGURE 1.1 PROPOSED DEVELOPMENT PLAN



E3P has previously completed a detailed Ground Investigation across the site with our assessment provided within a Phase 1 & 2 Geoenvironmental Site Assessment (Ref: 14-554-R1-2 October 2022), Supplementary Site Assessment Letter (Ref: 14-554-L1-2 June 2022) and our Remediation & Enabling Strategy (Ref: 14-554-R2 – Rev 6 October 2022).

During the previous phases of E3P site investigation, groundwater sampling was undertaken within installed monitoring wells. Additionally, surface water samples were tested from the River Irk at upstream and downstream positions.

Prior to E3P's site investigation, the following previous reports have been completed for the site that also include water samples:

- REFA Consulting Engineers – Ground Investigation Report. Report Reference: 05122, dated September 2006; and,
- Coopers – Site Investigation Report. Report Reference: 5639si, dated 28th May 2013.

A summary of the findings of the previous assessments is provided within Section 2.0.

Following consultation with the Environmental Agency in 2022, an additional round of surface and ground water monitoring has now been undertaken to fully determine the risk to controlled waters. This included the installation of new monitoring wells in the previous REFA monitoring locations to obtain representative groundwater samples within the former Rex Mill area of site.

The aims of this further ground investigation are:

- To review and collate previous controlled water monitoring results;
- Gather additional surface water samples along the River Irk and outfalls into the River Irk;
- Gather additional groundwater samples from previously installed E3P monitoring wells;
- Gather additional groundwater samples within the vicinity of historic REFA boreholes in Parcel A; and
- Updated controlled waters risk assessment.
- To produce site specific screening values for the landfill area within Parcel B use during the remediation works.

2. PREVIOUS INVESTIGATIONS

2.1. REFA INVESTIGATION (2006)

As part of the REFA investigation that took place in 2006, groundwater and leachate samples obtained during drilling were submitted for analysis by REFA from the Rex Mill site (Parcel A). A summary of the exceedances is provided in Table 2.1 and Table 2.2.

The analysis undertaken determined that groundwater contained heavy metals, phenols and PAH compounds. However, TPH compounds were noted to contain concentrations between 420 ug/l and 4400 ug/l (total TPH). The greatest concentrations were associated with boreholes BH2 and BH3, which were situated in the northeastern and southwestern corners of the site within Parcel A. There was no indication within the borehole logs of hydrocarbon lustres or odours.

These boreholes were targeted by the most recent E3P monitoring wells, which are discussed in Section 2.4.

TABLE 2.1 - SUMMARY OF REFA GROUNDWATER EXCEEDANCES

LOCATION (GROUNDWATER)	EQS EXCEEDANCES
BH1 2.5 m	Zinc 24 ug/l, Total TPH 420 ug/l
BH2 1.6 m	Total TPH 960 ug/l
BH2 2.5 m	Cadmium 2.0 ug/l, Copper 16 ug/l
BH2 4.2 m	Zinc 68 ug/l, Total TPH 4400 ug/l
BH3 1.0 m	Cadmium 2.0 ug/l, Zinc 17 ug/l, Total TPH 3700 ug/l
BH4 0.6 m	Zinc 24 ug/l, Total TPH 500 ug/l
BH5 1.1 m	Zinc 15 ug/l
TP4 1.0 m	Cadmium 2.0 ug/l, Copper 96 ug/l, Lead 210 ug/l, Zinc 440 ug/l
TP8 2.0 m	Copper 10 ug/l, Zinc 29 ug/l

TABLE 2.2 - SUMMARY OF REFA LEACHATE ANALYSIS

LOCATION (LEACHATE)	EQS EXCEEDANCES
TP02 0.5 m	-
TP03 0.3 m	Zinc 12 ug/l
TP04 0.5 m	-
TP05 1.0 m	-
TP06 0.3 m	Zinc 12 ug/l, Lead 1.8 ug/l

2.2. COOPERS INVESTIGATION (2013)

As part of the Coopers investigation in 2013 comprising of 54 No. Trial Pits, 15 No. Rotary Open Holes, 6 No. Cable Percussive Boreholes and 19 No. Window Sample Probeholes.

Three samples of groundwater were analysed from trial pits TP1 (Rex Mill), TP11 (apron between Rex Mill and former playing field) and TP30 (former pond in northern area of northern playing field). All samples were filtered to remove suspended sediment from within the trial pits however, it must be noted that this sampling method is not considered representative and, therefore, at this time, the results from the trial pit samples are discounted. A summary of the sample exceedances is presented in Table 2.3.

WS17, which exceeded the threshold for groundwater impact on surface water (166ug/l). This borehole was drilled off the proposed development site along the southern bank of the River Irk. The sample analysed recorded significantly elevated concentrations of TPH compounds (13mg/l – total TPH), the presence of ethylbenzene (0.079mg/l) and m & p xylene (0.24mg/l). No evidence of groundwater contamination spreading from WS17 has been noted at this time. During the remediation works a watching brief will be undertaken along the boundary of the site in this area.

Hydrocarbon compounds had been noted extensively within the Rex Mill area of the site by REFA, however, these were not noted during the works undertaken by Coopers.

TABLE 2.3 - SUMMARY OF COOPERS GROUNDWATER ANALYSIS

LOCATION (GROUNDWATER)	EQS EXCEEDANCES
TP11	Chromium 12 ug/l, Copper 5.5 ug/l
TP1	Copper 2.1 ug/l
TP30	Copper 1.8 ug/l
WS17	TPH C6-C35, Ethylbenzene, m- & p-Xylene

Coopers have also analysed 3 No. Samples of river water from the River Irk to assess whether the quality of the river changes as it runs through the site. The samples were taken from where the river enters the site from beneath the railway embankment in the east (water 1), just upstream from the Don Street bridge and downstream of the pedestrian bridges that cross the river (water 2) (downstream from the wagon workshop), and as the western boundary of Rex Mill where the river passes the site (water 3). The results identified marginally elevated lead and zinc with the concentrations decreasing downstream showing that the site was not adding pollutants to the river, hence a pathway between source and receptor was not evident.

A summary of the Coopers surface water exceedances are presented within Table 2.4.

TABLE 2.4 - SUMMARY OF COOPERS SURFACE WATER ANALYSIS

LOCATION (SURFACE WATER- RIVER IRK)	EQS EXCEEDANCES
Water 1	Lead 15 ug/l, Zinc 11 ug/l
Water 2	Lead 2.5 ug/l
Water 3	Copper 1.4 ug/l

2.3. PREVIOUS E3P INVESTIGATIONS (2021)

2.3.1. E3P INVESTIGATION - JANUARY TO MARCH 2021

E3P completed a ground investigation between the 27th January 2021 and 30th March 2021. With the summary of exceedances of groundwater, surface water and leachate analysis below. A detailed discussion of the ground investigation and assessment is provided within report Phase 1 & 2 Geoenvironmental Site Assessment (Ref: 14-554-R1-2 October 2022).

A summary of the exceedances is presented within Table 2.5, Table 2.6 and Table 2.7.

TABLE 2.5 -SUMMARY OF E3P GROUNDWATER SAMPLE RESULTS - 2021

LOCATION (GROUNDWATER)	EQS EXCEEDANCES
WS205	Arsenic 10.3 ug/l, Copper, Nickel 8.9 ug/l
WS201	Copper 9.0 ug/l, Zinc 17 ug/l
WS208	Copper 68 ug/l, Nickel ug/l

TABLE 2.6 -SUMMARY OF E3P LEACHATE SAMPLE RESULTS - 2021

LOCATION (LEACHATE)	EQS EXCEEDANCES
WS202B 1.9 m	Arsenic 28 ug/l, Copper 4.1 ug/l, Lead 4.1 ug/l, Zinc 13 ug/l
WS206 0.90 m	Copper 12 ug/l, Lead, Zinc
TP204 0.80 m	Nickel 4.3 ug/l

TABLE 2.7 - SUMMARY OF E3P SURFACE WATER SAMPLE RESULTS - 2021

LOCATION (SURFACE WATER- RIVER IRK)	Date of Samples	EQS EXCEEDANCES
Upstream	22nd January 2021	Copper 3.9 ug/l
Downstream	22nd January 2021	Copper 7.0 ug/l, Cyanide 7.0 ug/l, Zinc 20 ug/l
Upstream	23rd March 2021	Copper 6.5 ug/l, Cyanide 1.4 ug/l
Downstream	23rd March 2021	6.0 ug/l, Cyanic 1.2 ug/l
Upstream	14th April 2021	Copper 4.6 ug/l,
Downstream	14th April 2021	Copper 3.6 ug/l, Cyanide 1.3 ug/l
Upstream	8th March 2022	Copper 5.5 ug/l,
Downstream	8th March 2022	Copper 7.5 ug/l, Zinc 12 ug/l

Two groundwater samples from below the former Rex Mill (WS202C and WS207) were analysed for PFOA and PFOS, neither were present at detectable levels.

Widespread heavy metal and PAH contamination and limited TPH contamination were identified in the soil, leachate and groundwater analysis at the site. It is noted that where there are exceedances in soils, there are exceedances within leachates. Thus, the source of the contaminants can be attributed to the point source of historical industrial uses and the heavy metal and PAH contamination is considered present on a site wide basis. The TPH contamination is around historical features such as tanks and will be delineated, removed and material subject to treatment as part of the remediation works.

A comparison of the River Irk surface water samples to the Tier 1 criteria has shown exceedances in copper within samples upstream and downstream of the site on all 4 visits between January 2021 and March 2022. As a result of this, it can be said that elevated levels of these determinants cannot be attributed to the site, due to their presence within upstream samples. This is consistent with the surface water exceedances identified as part of the Coopers works which showed that the site was not causing the heavy metals exceedances within the river as they were present upstream of the site.

The full detailed assessment is presented within the E3P Phase 1 and Phase 2 Report (ref: 14-554-R1 dated October 2022).

2.3.2. E3P INVESTIGATION - JUNE 2022

E3P completed a supplementary investigation that is detailed within report 'Supplementary Site Assessment Letter' (ref: 14-554-L1-2 June 2022).

The investigation involved the undertaking of additional trial pits across parcels A, B and C, window samples in Parcel D and cable percussive holes within the former landfill and Parcel D. The main aim of this further investigation was to collect geotechnical information, but further chemical analysis was undertaken as part of the investigation.

Table 2.8 and 2.9 provide a summary of EQS exceedances from leachate samples and surface water samples collected.

TABLE 2.8 -SUMMARY OF E3P LEACHATE RESULTS – JUNE 2022

LOCATION (LEACHATE)	EQS EXCEEDANCES
TP504 1.20 m	Copper 29 ug/l, Nickel 5.0 ug/l, Zinc 11 ug/l
TP509 1.00 m	Copper 21 ug/l, Lead 10 ug/l, Zinc 26 ug/l
TP502 1.40 m	Copper 19 ug/l, Lead 4.6 ug/l Nickel 4.8 ug/l, Zinc 16 ug/l
TP516 0.80 m	Copper 15 ug/l, Lead 6.7 ug/l, Nickel 4.4 ug/l, Total cyanide 2.3 ug/l
TP506 0.70m	Cadmium 0.26 ug/l, Copper 13 ug/l, Lead 5.4 ug/l, Zinc 13 ug/l

The surface water samples noted upstream and downstream were taken upstream and downstream of the River Irk. Whilst Pond N and Pond S were taken from the on-site pond in the southeast of the site.

TABLE 2.9 -SUMMARY OF E3P SURFACE WATER SAMPLE RESULTS – JUNE 2022

LOCATION (SURFACE WATER- RIVER IRK)	EQS EXCEEDANCES
Upstream	Copper 5.5 ug/l
Downstream	Copper 7.5 ug/l, Zinc 12 ug/l
Pond N	Copper 5.0 ug/l
Pond S	Copper 4.5 ug/l

It should be noted that the majority of the exceedances were noted within the leachate samples, and only copper and zinc were found in exceedance in the surface water samples collected from the on-site watercourse which is consistent with all former surface water samples.

Copper was found in exceedance in each of the four surface water samples, whereas zinc was only found in exceedance (12 ug/l compared to EQS value of 10.9 ug/l) in the downstream water sample. It is noted that this is a relatively minor exceedance and generally lower than the concentrations in the leachate, thus indicating limited leaching and migration is occurring.

An M-BAT assessment has been completed for the surface water samples to determine the bioavailability of copper, nickel and zinc. The risk characterisation ratio assessment confirmed that copper, nickel and zinc have a RCR value less than 1 and are therefore not bioavailable. Manganese was found to have a RCR value of 1.4, within the sample taken from the southern pond only.

2.4. E3P INVESTIGATION (SEPTEMBER – OCTOBER 2022)

Following discussion with Lindsey Berends at the Environment Agency, further groundwater and surface water sampling was to be undertaken to form a more robust controlled waters assessment.

The further works involved the collection of water samples from along the River Irk, water samples from on-site drains along with the drilling of 5 additional boreholes to install groundwater monitoring wells in areas where REFA had previously identified contaminants within the groundwater.

E3P window samples labelled WS800 series were placed to target the relevant REFA boreholes as detailed below:

- WS801- REFA BH1
- WS802- REFA BH2
- WS803- REFA BH3
- WS804- REFA BH4
- WS805- REFA BH5/BH5A

Further groundwater samples were also gathered from the previously installed wells listed below:

- WS202
- WS208
- WS311

Samples from on-site drains and River Irk are labelled as per the below:

- A – Area A drain
- B – Area A drainage ditch
- C – Area A manhole (drainage ditch feeds into)
- D – Area A River Irk Downstream
- E – Area A River Irk After Weir Pool
- F – Area C Reservoir Outfall
- G – Area C Culvert Outfall to River Irk

- H – Area C Hexpol Outfall
- I – Area B Land drain out of historic landfill area
- J – Area B Land drain out of historic landfill area
- K – Area E Pond
- L – Area C River Irk After reservoir outfall and culvert
- M –Area C River Irk After Hexpol works
- N – Area C River Irk After land drains from historic landfill area
- O - Area E River Irk Upstream of site
- P – Area B On site as stream enters culver
- Q – Area B northern stream/drainage ditch

Surface water sample locations are provided on drawing 14-554-023 – Surface Water Sampling Plan within Appendix II.

The samples above have been scheduled for analysis with the assessment discussed below.

2.4.1. GROUND CONDITIONS

Made Ground

The Made Ground generally consisted of gravelly clay containing brick, sandstone, mudstone and occasional wood to between 1.50m to 2.00m bgl.

WS803 refused three times in the Made Ground at 0.80 m bgl.

Drift

WS801 encountered a greyish brown very silty SAND from 2.00m to 3.50m bgl. This was underlain by stiff grey sandy clay to 4.00m bgl. WS802 encountered interbedded clayey SAND and sandy CLAY.

WS803d encountered a soft brown silty vey sandy CLAY from 1.00m to 4.00m bgl.

WS804 identified an organic layer from 1.00m to 1.20m bgl with other organic material noted within granular deposits within WS805 between 1.00m and 2.50m bgl.

2.4.2. WATER SAMPLING

As part of these works, the additional water sampling was completed over three separate visits as detailed below:

- Visit 1 – 13th of September 2022 to obtain surface water samples of the River Irk and identify outfalls.
- Visit 2 – 27th of September 2022 to obtain low flow groundwater samples from historical monitoring wells.

- Visit 3 – 3rd of October 2022 to obtain low flow groundwater samples from monitoring wells installed in September 2022 to replace previously destroyed REFA boreholes.

Surface water sample locations are provided on drawing 14-554-023 – Surface Water Sampling Plan within Appendix II.

2.5. ASSESSMENT – FURTHER WATER SAMPLING - E3P 2022

All water samples have been subject to a Tier 1 assessment presented in Appendix I.

The Tier I assessment has included a comparison of water samples from the River Irk and on-site drains, alongside groundwater samples from the additional window sample boreholes WS801 to WS805 to drinking water standards and environmental quality standards (EQS).

2.5.1. PARCEL A

SURFACE WATER DRAIN

Surface water samples were collected from Parcel A from on-site surface water drains. The chemical testing results have identified copper exceedances compared to EQS values within four locations, (A,B,C,D) with concentrations recorded between 4.9 µg/l and 1.6 µg/l.

Elevated total cyanide was also recorded in two locations (E and D), with concentrations of 2.2 and 2.00 µg/l respectively.

No other exceedances have been recorded within the surface water within Parcel A.

GROUNDWATER

Groundwater samples were collected from WS801 – WS805 Groundwater analysis has identified the following contaminants when compared to EQS values within Parcel A.

- Copper
- Nickel
- Zinc
- Selenium
- TPH C10-C12
- TPH C12-C16
- Naphthalene
- Anthracene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Benzo(a)pyrene
- Indeno(123-cd)pyrene
- Fluoranthene

Elevated PAHs and TPHs have only been identified within WS805 (Ref BH5) , located within very close proximity to the REFA BH5 borehole. TPH concentrations were only identified at concentrations of 54ug/l for TPH C10-C12 and 22ug/l for TPH C12-C16 which is significantly lower than the max total TPH concentration of 4400ug/l identified by REFA thus showing that the source has been removed and very minor residual impact remains. It must be noted that E3P did not identify elevated TPH impact in any of the other REFA locations where high TPH concentrations were previously identified.

Heavy metal exceedances were noted across Parcel A in both the surface water drains and groundwater.

It is likely that once soils with exceedances of TPHs have been removed from Parcel A in line with the current remediation strategy the pollutant link will be removed. It must be noted that TPHs are not being identified within the River Irk therefore a link between source and receptor is not currently present.

The proposed development will create hardstanding cover across the majority of the site, thus reducing the amount of infiltration generated and the risk posed to controlled waters receptors.

2.5.2. PARCEL B

SURFACE WATER DRAIN

Five locations within Parcel B identified copper exceedances when compared to EQS values (P,Q,N,I J) with concentrations ranging from 4.9 µg/l to 1.5 µg/l.

Elevated total cyanide was also recorded in two locations (I and N), with concentrations of 3.6 µg/l and 1.1 µg/l respectively.

GROUNDWATER

Groundwater analysis has identified the following contaminants when compared to EQS values within Parcel B:

- Copper
- Total Cyanide

Both of which have been encountered within the River Irk, therefore there is potential for a link between the groundwater and surface water however, it must be noted that the exceedances are relatively minor.

The proposed development will create hardstanding cover across the majority of the site, thus reducing the amount of infiltration generated and the risk posed to controlled waters receptors.

2.5.3. PARCEL C

SURFACE WATER DRAIN

Four locations within Parcel C identified copper exceedances when compared to EQS values (F,H,L,G) with concentrations ranging from 3.6 µg/l to 2.7 µg/l.

Elevated zinc with a concentration of 22 µg/l has been identified with location H, which was collected from the Hexpol Works Outfall.

Elevated total cyanide was also recorded in four locations (H,F,G,L), with concentrations ranging between 4.2 µg/l and 1.1 µg/l respectively.

No pollution linkage between the on-site heavy metals contamination and receptors can currently be made.

2.5.4. PARCEL D

SURFACE WATER
No exceedances were recorded for surface water within Parcel D.

2.5.5. PARCEL E

SURFACE WATER
Location O within Parcel E has identified a copper exceedance compared to EQS values with a concentration recorded of 3.6 µg/l.

Elevated total cyanide was also recorded in two locations (K and O), with concentration of 1.3 µg/l.

2.5.6. RIVER IRK

Several surface water samples were taken from the River Irk following its flow through the site, (D, E, L, M ,N and O). Samples D and E are located downstream with sample O located upstream.

From the water results within the table appended to this letter, higher concentrations of metals are recorded downstream of the Hexpol works, whilst cyanide is identified as present throughout the site, with concentrations decreasing downstream.

Therefore, it can be considered that site is not leaching cyanide and heavy metals and no pollutant link is present generated on site into the River Irk.

Overall, it can be determined that there is a low risk to controlled waters on site, due to the capping of the site in hardstanding during development and the lack of other pollutant linkages for heavy metals on site.

3. CONCLUSIONS

- There have been multiple phases of ground investigation, this has enabled reasonable characterisation of the pollution risk and potential to impact the critical receptors.
- The primary receptors are identified as the River Irk to the south and the underlying Secondary A Aquifers.
- The further water sampling undertaken during this round of investigation has identified the following in consideration with the historical assessments.

3.1. RIVER IRK AND SURFACE WATER DRAINS

The River Irk contains very slightly elevated concentrations of heavy metals which are mainly copper and zinc throughout the water samples taken from the most upstream location to the most downstream. There is no obvious link between contaminant sources on-site and the River Irk.

The surface water drains have also noted very slightly elevated heavy metals exceedances and therefore it is likely that this is indicative of the local geology and history of the area and cannot be attributed to the subject site. Further an MBAT assessment has been undertaken for all the samples from the River Irk and there are no exceedances for copper, zinc and nickel. Only sample J returned a Manganese RCR of 1.03 and the pond sample returned a Manganese RCR of 1.4. Where the Risk Characterisation Ratio (RCR) is greater than 1, this indicates the bioavailable concentration is above the EQS and the receptor is therefore at risk. Given the marginal exceedances of the RCR for Manganese, E3P do not consider the site to pose an unacceptable level of risk to surface waters.

3.2. GROUNDWATER

The site is underlain by a mixed geology; the granular deposits across the site will afford less protection to the underlying Secondary A Aquifer in the bedrock and the adjacent River Irk in comparison to the centre of the site, where clay deposits have been identified in excess of 5.00 m in areas. Impacted groundwater has the potential to migrate laterally and vertically towards nearby controlled water receptors, including the river and aquifers, because of this high permeability strata. Controlled water receptors are therefore deemed to be at a high risk to on-site contamination, particularly in the south of the site.

Widespread heavy metal and PAH contamination and limited TPH contamination has been identified in the soil, leachate, and groundwater analysis at the site. It is noted that where there are exceedances in soils, there are exceedances within leachates. Thus, the source of the contaminants can be attributed to the point source of historical industrial uses and the heavy metal and PAH contamination is considered present on a site wide basis. The TPH contamination is around historical features such as tanks and will be delineated, removed and material subject to treatment.

3.3. DETAILED CONTROLLED WATERS RISK ASSESSMENT TO GENERATE SSRTS

3.3.1. BACKGROUND

Following a review of previous investigation information and a controlled waters risk assessment completed based on the most recent phase of groundwater sampling, a theoretical risk to controlled waters has been identified from the following sources:

- Source Area 1 – Historic Landfill (Parcel B)
- Source Area 2 – Made Ground (Parcels A, C, D & E)

As part of the remediation works, the landfill area will be processed in order to ensure the remaining soils don't pose a risk to human health or controlled waters. Human health screening levels have been developed for the site however, the risk to controlled waters needed to be considered. Following discussion with the EA it was decided that Level 3 Site Specific Remediation Targets needed to be generated for the landfill material in Parcel B and for the Made Ground across the remainder of the site. The below assessment details how these were generated.

A primary source has not been identified. A secondary source area has been defined as 5 m by 5 m, based on the likely area of impacted soils requiring remediation within the historic landfill. This is considered to be a conservative assessment based on the ground investigation data and absence of any significant evidence of a pollution source.

The historic landfill in Parcel B and the Made Ground across the site is considered to be a potential source of organic contamination and leachable metals, given the identified exceedances in soil and groundwater samples.

The Tier 1 risk assessment from the original site investigation has confirmed that specifically naphthalene, arsenic, copper, cyanide, mercury, lead and zinc have been identified as posing a theoretical risk to the identified receptors (River Irk and underlying aquifers) and have therefore been modelled to generate site specific remediation targets (SSRTs). The above compounds are selected as 'indicator species' as they are considered to represent the most likely source with the highest potential for migration toward a critical receptor.

Based on the identified results and the requirement for remediation, a detailed controlled water risk assessment will be required in order to generate site-specific remedial targets which will enable the source area to be remediated to a point where they will pose no unacceptable risk to the controlled water receptors.

A model using the EA RTM P20 has been completed, and the details of such are included in this section.

3.3.2. CONTAMINANTS

Concentrations of naphthalene, arsenic, copper, cyanide, mercury, lead and zinc in the location of the historic landfill (Parcel B) and in the general Made Ground (Parcels A, C, D & E) are considered to pose a potential risk to the River Irk.

Subject to the removal of all significantly impacted soils and a small quantity of perched groundwater and subsequent validation to demonstrate compliance with Site Specific Remediation Targets for the protection of controlled waters, the site can be delivered and remediated in a manner that would ensure the land poses no significant risk to controlled waters or the wider environ.

In light of the potential for the creation of a complete pollutant linkage, E3P has developed Site Specific Remediation Targets (SSRT's) to facilitate further informed understanding to which the site poses a serious risk to controlled waters and the wider environ.

This initial phase of Tier 2 Quantitative Risk Assessment modelling has been completed to provide an assessment of the actual issues and determine the viability of remediation targets and the methodology by which the secondary source at the site can be treated to minimise the degree of future risk to controlled waters and the wider environs.

The Tier 1 Controlled Waters Risk Assessment determined that the following groups of potentially soluble / mobile hydrocarbon compounds could present a theoretical risk to the identified receptors.

TABLE 3.1 – CONTAMINANT EXCEEDANCES

Contaminant Exceedance
Arsenic Copper Total Cyanide Mercury Lead Zinc Naphthalene

The DQRA has been undertaken using the soil data obtained over the various phases of works in order to calculate RTM values for the shallow soils and to model the theoretical migration of the identified contaminants through the Made Ground (landfill) deposits towards the River Irk.

This DQRA with respect to controlled waters has been completed to calculate Remedial Target Values for soil which will be used to ensure that all soil remaining post-remediation will pose no significant level of risk to the controlled waters receptors.

3.3.3. CONTROLLED WATERS RISK ASSESSMENT

The quantitative risk assessment of controlled waters is designed to generate site-specific screening values for comparison with the soil and soil leaching results to ensure that controlled waters are not adversely affected by any future migrating plume of contamination.

The Remedial Target Worksheets (v3.2) have been utilised to achieve this purpose by characterising a simplified conceptual model designed to predict migration of contaminants through the soils towards the receptor.

Site data gathered from laboratory analysis, site testing and logging records together with published data, has been used to define parameters to assess the soil and groundwater beneath the site.

Modelling of the contamination was assessed on three levels which take into account distances to compliance points and different assumptions about the attenuation of contaminants. The three levels of assessment for the derivation of soil remedial targets and their assumptions are briefly described as follows:

- **Level 1 soils –** compliance point is taken as the soil zone. There is no allowance for processes such as dilution or attenuation which might affect contaminant concentrations along the pathway between the site and receptors. At Level 1 the soil remediation target is equal to a calculated soil concentration as only soil data (as opposed to soil leaching data) is available. The empirical equations calculated by the model describe soil-water partitioning and are therefore sensitive to the value of the partition coefficient.

- **Level 2 soils –** considers how dilution of contaminants leached from the soil by groundwater flow below the site and attenuation of pollutants within the unsaturated zone are sufficient to reduce contamination concentration to acceptable levels.

- **Level 3 soils and groundwater –** considers whether the attenuation of pollutants down-hydraulic gradient of the source is sufficient to reduce contaminant concentrations to acceptable levels. The laboratory results can be compared with groundwater, soil or leachate results obtained from the site during the remediation.

3.3.4. DISCUSSION OF PHYSICAL PARAMETERS

SENSITIVITY

The site is located in a high sensitivity setting with respect to controlled waters, with the River Irk located within 20 m to the south and underlain by a Secondary A aquifer in the superficial deposits and bedrock. The nearest groundwater abstraction is located 53 m west of the site and is used for cooling. There are four other groundwater abstractions within 1km of the site and all are utilised for cooling. These are all down gradient of the site.

Based on the site setting, whilst both the surface watercourses and the underlying aquifers are considered to be sensitive receptors, it is considered that the River Irk would be the most likely and sensitive receptor. Based on the position of the contaminant source (landfill) on the site and the distance to the River Irk, a 10 m compliance point would be suitable.

HYDROGEOLOGICAL FACTORS

The Made Ground and the underlying drift deposits are generally granular as such, the RTM model is based on sand.

The hydraulic gradient for Parcel B (source area 1) has been calculated using levelling data to be 0.029 and the hydraulic gradient for source area 2 has been calculated as 0.022.

E3P has also utilised soil analysis data for TOC within the Made Ground as obtained within the ground investigations. TOC was measured at an average of 1.63 % for Parcel B (source area 1) and this has been used to obtain a Fraction Organic Carbon (FOC), returning a value of 0.0163, which has been used in the DQRA model. TOC was measured at an average of 2.73 % for source area 2 and this has been used to obtain a Fraction Organic Carbon (FOC), returning a value of 0.0273, which has been used in the DQRA model.

Additionally, E3P has reviewed the annual rainfall data on the Met Office for the area and considering evapotranspiration and the proposed development being residential which would mean low infiltration with the site being covered in hardstanding, a 1% infiltration figure has been calculated as 0.00109m/day based on 400 mm/year (Met Office Data 2020).

PHYSICAL AND CHEMICAL INPUT PARAMETERS

Further details regarding the various physical and chemical input parameters required for the DQRA are included in Tables 3.2 and 3.3

TABLE 3.2 DQRA PHYSICAL INPUT PARAMETERS

Parameter	Value	Source	Justification
Method of calculating partition co-efficient	Non-polar Organic Chemicals / User specified for inorganics		
Analytical Solution	Ogata Banks		
Degradation Conditions (aerobic / anaerobic)	Assumed anaerobic conditions to remain conservative		
Level Three - Soils			
Pathway Aquifer	N/A	N/A	Migration is assumed to be via the sand and gravel to the River Irk
Saturated aquifer thickness (m)	7.30 – SA1 12.00- SA2	Estimate from borehole data (CP303) (CP401)	Approximation based on ground conditions encountered on site within exploratory locations.
Bulk density of aquifer materials (g/cm^3)	1.18	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3
Air filled porosity (cm^3/cm^3)	0.30	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3

Parameter	Value	Source	Justification
Water filled porosity (cm^3/cm^3)	0.24	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3
Effective porosity of the aquifer (cm^3/cm^3)	0.54	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3
Hydraulic gradient	0.029 – SA1 0.022 – SA2	Site Data	Calculated using site levelling data
Hydraulic conductivity of the aquifer (m/d)	6.36	SR3	Taken from the value for sand within the Updated Technical Background CLEA-SR3
Distance to compliance point (m)	10	Site Compliance Point	The compliance point is the distance to the River Irk from the on-site landfill/ Made Ground (conservative estimate)
Assumed groundwater flow direction	S	Site Data	Based on site data and groundwater modelling
Fraction Organic Carbon in the aquifer (FOC)	0.0163 – SA1 0.0273 – SA2	Site Data	Based on site soil samples.
Width of the plume in the aquifer at source (m)	5	Site Data	Based on secondary contamination source
Length of the plume in the aquifer at source (m)	5	Site Data	Based on secondary contamination source
Plume thickness at source (m)	6.935 – SA1 11.4 – SA2	Specified	This value is calculated from 95% of the mixing thickness within the Level 2 soils in the RTM model

TABLE 3.3 GENERAL DQRA CHEMICAL INPUT PARAMETERS

Contaminant	Koc (l/kg)	Kd	Source	Anaerobic Deg. Half-life (d)	Aerobic Deg. Half-life (d)	Source	Henry's Law
Naphthalene	2510	-	LQM-CIEH	258	20	Howard et al	0.0722
Arsenic	-	500	Estimate	9.99E+99	9.99E+99	EA	0
Copper	-	500	Estimate	9.99E+99	9.99E+99	EA	0
Total Cyanide	-	500	Estimate	9.99E+99	9.99E+99	EA	0
Mercury	-	500	Estimate	9.99E+99	9.99E+99	EA	0
Lead	-	500	Estimate	9.99E+99	9.99E+99	EA	0

Zinc	-	500	Estimate	9.99E+99	9.99E+99	EA	0

TABLE 3.4 MAXIMUM SITE CONCENTRATIONS – SOURCE AREA 1 – HISTORIC LANDFILL

Contaminant	Max Conc in Soil (mg/kg)	Site Source
Arsenic	140	TP507
Copper	150	TP323
Total Cyanide	<1.0	N/A
Mercury	4.5	TP507
Lead	420	TP507
Zinc	1600	TP16
Naphthalene	17	TP351

TABLE 3.5 MAXIMUM SITE CONCENTRATIONS – SOURCE AREA 2 – MADE GROUND (PARCEL A, C, D & E)

Contaminant	Max Conc in Soil (mg/kg)	Site Source
Arsenic	320	TP5 (Parcel A)
Copper	3600	TP4 (Parcel A)
Total Cyanide	37	TP107 (Parcel D & E)
Mercury	7.8	BH2 (Parcel D & E)
Lead	3100	BH1 (Parcel A)
Zinc	13000	TP301 (Parcel C)
Naphthalene	14	TP409 (Parcel D & E)

3.3.5. RESULTS

The results of the risk assessment are summarised in Table 3.6 and Table 3.7. Leachate and soil target values have been generated as these will be utilised for soil samples taken during remediation.

The results provide remediation target concentrations for the soils which may be used for validation purposes of the landfill area of Parcel B and the Made Ground across the remainder of the site following the remediation of the Made Ground impacted by naphthalene and heavy metal compounds.

As an alternative to the EQS, the target concentration has been reduced to 0.001 mg/l for arsenic and zinc in the RTM model to calculate Level 3 remediation targets which are considered to be protective of controlled waters.

TABLE 3.6 RESULTS SOURCE AREA 1 (PARCEL B LANDFILL)

Contaminant	Source Concentration used in RTM Model	Level 3 Remedial Target Concentration	
	Soils (mg/kg)	Soils (mg/kg)	Leachate (mg/l)
Arsenic	**140**	128	0.255 (255 ug/l)
Copper	**150**	128	0.255 (255 ug/l)
Total Cyanide	<1.0	128	0.255 (255 ug/l)
Mercury	4.5	128	0.255 (255 ug/l)
Lead	**420**	153	0.306 (306 ug/l)
Zinc	**1600**	128	0.255 (255 ug/l)
Naphthalene	17	22.7	0.552 (552 ug/l)

TABLE 3.7 RESULTS SOURCE AREA 2 (MADE GROUND – PARCEL A, C, D & E)

Contaminant	Source Concentration used in RTM Model	Level 3 Remedial Target Concentration	
	Soils (mg/kg)	Soils (mg/kg)	Leachate (mg/l)
Arsenic	320	159	0.318 (318 ug/l)
Copper	3600	159	0.318 (318 ug/l)
Total Cyanide	37	159	0.318 (318 ug/l)
Mercury	7.8	159	0.318 (318 ug/l)
Lead	3100	191	0.382 (382 ug/l)
Zinc	13000	159	0.318 (318 ug/l)
Naphthalene	14	48.4	0.705 (705 ug/l)

Remediation Target Concentrations have been produced from the RTM model which may be used to compare validation samples of the soil following remediation of the impacted soils to confirm there will be no long-term risk to the controlled water receptors.

Where the existing contaminant concentration, identified during the various phases of intrusive investigation, exceeds the remedial target value, the value has been highlighted in orange where the exceedances appear to be present.

The impact identified is considered to be stable and not expanding as there is no ongoing source that is generating potential contaminants. The leachate values generated will be utilised as the SSRT criteria within the E3P Remediation & Enabling Works Strategy.

3.4. RECOMMENDATIONS

As the site is currently open, vegetated space, with little hardstanding surface cover, rainfall is not being intercepted and subsequently infiltrates freely into the underlying Made Ground, potentially mobilising the identified contaminants. Furthermore, the area of TPH impact will be removed during the remediation works.

The proposed development will create hardstanding cover across the site, thus reducing the amount of infiltration generated. This will in turn, reduce the number of contaminants present in leachate off the site and reduce the risk further to the underlying aquifer and adjacent River Irk.

- There is limited potential for the aquifer or River Irk to be impacted upon removal of the TPH impact. There is no current evidence of a pollutant linkage with the River Irk.
- Two groundwater samples from below the former Rex Mill have been analysed for PFOA and PFOS and neither were present at detectable levels.

Based on the findings the following is recommended for the site:

- The site in its current state is vegetated land consisting of soft standing surface cover which allows for extensive infiltration of rainfall into underlying Made Ground soils.
- The site is to undergo remediation with the removal of contaminant hotspots.
- A watching brief will be in place along the site boundary close to WS17 to ensure that the contamination is not migrating onto site.
- If any visual or olfactory evidence of contamination is noted during the remediation works, then further assessment will be required.

- A surface water management plan is required to ensure on-site surface water is managed accordingly.

Yours sincerely,

Stuart Ellis
Principal Geoenvironmental Consultant
For and on behalf of E3P Ltd

Appended:

Appendix I – Tier 1 Assessment
Appendix II – Drawings
Appendix III – Chemical Analysis
Appendix IV – Exploratory Hole Logs
Appendix V – P20 RTM Sheets

APPENDIX I – Tier 1 Assessment

COMPARISON OF SURFACE ANALYSIS WITH TIER 1 SCREENING LEVELS

DETERMINAND	UNIT	EQS [1, 2, 3] AA	DWS [3,4,5]	NO. OF SW SAMPLES	MAX CONC. IN SURFACE WATER	LOCATION OF EXCEEDANCE (EQS)	ASSESSMENT
Arsenic	µg/l	50	10	16	3.69	-	No Further Action
Cadmium	µg/l	0.08-0.25	5	16	0.09	-	No Further Action
Chromium (VI)	µg/l	3.4	–	16	< 0.2	-	No Further Action
Chromium (III)	µg/l	4.7	50	16	< 5.0	-	No Further Action
Copper	µg/l	1	2000	16	4.9 4.9 4.8 3.6 3.6 3.5 3.4 3.4 3.2 3.1 2.7 2.7 2.7 1.6 1.5	Area A - D Area B - P Area B - Q Area E - O Area C - F Area A - A Area A - E Area C – H Area A – C Area B – N Area C - L Area B - I Area C – G Area A – B Area B - J	**Present upstream before site and throughout** **Before site 3.6 µg/l, end point downstream 4.9 µg/l**
Total Cyanide	µg/l	1	50	16	4.2 3.6 3.4 2.2 2 1.8 1.3 1.3 1.1 1.1	Area C – H Area B - I Area C – F Area A - E Area A - D Area C – G Area E - K Area E - O Area B - N Area C - L	**Present upstream before site and throughout.** **Before site 1.3 µg/l, end point downstream 2.0 µg/l**

DETERMINAND	UNIT	EQS [1, 2, 3]	DWS [3,4,5]	NO. OF SW SAMPLES	MAX CONC. IN SURFACE WATER	LOCATION OF EXCEEDANCE (EQS)	ASSESSMENT
Lead	µg/l	1.2	10	16	< 0.2	-	No Further Action
Mercury	µg/l	–	1.0	16	< 0.05	-	No Further Action
Nickel	µg/l	4	20	16	1.8	-	No Further Action
Selenium	µg/l	–	10	16	2.1	-	No Further Action
Zinc	µg/l	10.9	–	16	22	Area C – H	Hexpol Works Outfall
pH	6–9			16	8.1	-	No Further Action
Naphthalene	µg/l	2	10*	16	< 0.01	-	No Further Action
Anthracene	µg/l	0.1	10*	16	< 0.01	-	No Further Action
Benzo[b]fluoranthene	µg/l	0.00017*	10*	16	< 0.01	-	No Further Action
Benzo[k]fluoranthene	µg/l	0.00017*	10*	16	< 0.01	-	No Further Action
Benzo(a)pyrene	µg/l	0.00017*	10*	16	< 0.01	-	No Further Action
Indeno(123-cd)pyrene	µg/l	0.00017*	10*	16	< 0.01	-	No Further Action
Fluoranthene	µg/l	0.0063	10*	16	< 0.01	-	No Further Action
Benzo(ghi)perylene	µg/l	1.7–4	10*	16	< 0.01	-	No Further Action
TPH C5-C6 (benzene)	µg/l	10	1	16	< 1.0	-	No Further Action
TPH C6-C8 (toluene)	µg/l	74	700	16	< 1.0	-	No Further Action
TPH C8-C10 (ethyl benzene)	µg/l	20	300	16	< 1.0	-	No Further Action
TPH C10-C12 (xylene)	µg/l	30	500	16	< 1.0	-	No Further Action
TPH C12-C16	µg/l	-	90[5]	16	< 10	-	No Further Action
TPH C16-C35	µg/l	-	90[5]	16	< 10	-	No Further Action

DETERMINAND	UNIT	EQS [1, 2, 3]	DWS [3,4,5]	NO. OF SW SAMPLES	MAX CONC. IN SURFACE WATER	LOCATION OF EXCEEDANCE (EQS)	ASSESSMENT
TPH C5-C6	µg/l	–	15000	16	< 1.0	-	No Further Action
TPH C6-C8	µg/l	–	15000	16	< 1.0	-	No Further Action
TPH C8-C10	µg/l	–	300	16	< 1.0	-	No Further Action
TPH C10-C12	µg/l	–	300	16	< 10	-	No Further Action
TPH C12-C16	µg/l	–	300	16	< 10	-	No Further Action
TPH C16-C21	µg/l	–	300**	16	< 10	-	No Further Action
TPH C21-C35	µg/l	–	300**	16	< 10	-	No Further Action
Tetrachloroethylene	µg/l	0.4	10	16	< 1.0	-	No Further Action
Trichloroethylene	µg/l	10	10	16	< 1.0	-	No Further Action
Trichlorobenzene	µg/l	0.4	–	16	N/A	-	No Further Action
Trichloromethane	µg/l	2.5	–	16	< 1.0	-	No Further Action
Dichloromethane	µg/l	20	200	16	N/A	-	No Further Action
Carbon Tetrachloride	µg/l	12	3	16	N/A	-	No Further Action
Vinyl Chloride	µg/l	–	0.3	16	< 1.0	-	No Further Action

Notes

Solubility <0.01µg/l
AA – Annual Average
MAC- Maximum Admissible Concentration
* Polyaromatic hydrocarbons (PAH) - Benzo(a)pyrene (BaP), Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)-perylene and Indeno(1,2,3-cd)-pyrene. Benzo(a)pyrene can be considered as a marker for the other PAHs, hence only benzo(a)pyrene needs to be monitored for comparison with the biota EQS or the corresponding AA-EQS in water
** There are no WHO Guideline Values for aliphatic fractions C16-C21 and C21-C35, therefore the guideline value for aliphatic fractions inclusive of C8-C16 (300µg/l) has been applied.

1. The Water Environment (Water Framework Directive) (England and Wales) (Amendment) Regulations (2015)
2. Directive establishing a framework for Community action in the field of water policy (Water Framework Directive)
3. Council Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Dangerous Substances Directive) - List II substances
4. Council Directive on the quality of water intended for human consumption (Drinking Water Directive)
5. WHO Guidelines for Drinking Water Quality. Third edition (2004)

COMPARISON OF GROUNDWATER ANALYSIS WITH TIER 1 SCREENING LEVELS

DETERMINAND	UNIT	EQS [1, 2] AA	DWS [3,4]	NO. OF SW SAMPLES	MAX CONC. IN SURFACE WATER	LOCATION OF EXCEEDANCE (EQS)	ASSESSMENT
Arsenic	µg/l	50	10	7	21.9	-	No Further Action
Cadmium	µg/l	0.08-0.25	5	7	0.1	-	No Further Action
Chromium (VI)	µg/l	3.4	–	7	< 0.2	-	No Further Action
Chromium (III)	µg/l	4.7	50	7	< 5.0	-	No Further Action
Copper	µg/l	1	2000	7	14 2.5 1.5 1.3 1.1	Area A – WS804 Area A – WS801 Area B – WS311 Area A – WS805 Area A – WS803	Further Action
Total Cyanide	µg/l	1	50	7	3.9 2.9	Area A – WS801 Area B – WS311	Further Action
Lead	µg/l	1.2	10	7	0.9	-	No Further Action
Mercury	µg/l	–	1.0	7	< 0.05	-	No Further Action
Nickel	µg/l	4	20	7	19	Area A – WS202	Further Action
Selenium	µg/l	–	10	7	15	Area A – WS803	Further Action
Zinc	µg/l	10.9	–	7	140	Area A – WS804	Further Action
pH	6–9			7	7.9	-	No Further Action
Naphthalene	µg/l	2	10*	7	3.8	Area A – WS805	Further Action
Anthracene	µg/l	0.1	10*	7	0.21	Area A – WS805	Further Action
Benzo[b]fluoranthene	µg/l	0.00017*	10*	7	1.1	Area A – WS805	Further Action
Benzo[k]fluoranthene	µg/l	0.00017*	10*	7	0.4	Area A – WS805	Further Action
Benzo(a)pyrene	µg/l	0.00017*	10*	7	0.91	Area A – WS805	Further Action

DETERMINAND	UNIT	EQS [1, 2] AA	DWS [3,4]	NO. OF SW SAMPLES	MAX CONC. IN SURFACE WATER	LOCATION OF EXCEEDANCE (EQS)	ASSESSMENT
Indeno(123-cd)pyrene	µg/l	0.00017*	10*	7	0.45	Area A – WS805	Further Action
Fluoranthene	µg/l	0.0063	10*	7	1.6	Area A – WS805	Further Action
Benzo(ghi)perylene	µg/l	1.7–4	10*	7	0.5	-	No Further Action
TPH C5-C6 (benzene)	µg/l	10	1	7	< 1.0	-	No Further Action
TPH C6-C8 (toluene)	µg/l	74	700	7	< 1.0	-	No Further Action
TPH C8-C10 (xylene)	µg/l	30	300	7	< 1.0	-	No Further Action
TPH C10-C12 (naphthalene)	µg/l	2	90	7	53	Area A – WS805	Further Action
TPH C12-C16 (aromatic)	µg/l	-	90	7	22	Area A – WS805	Further Action
TPH C16-C35 (aromatic)	µg/l	-	90	7	25	-	No Further Action
TPH C5-C6(aliphatic)	µg/l	–	1000[5]	7	< 1.0	-	No Further Action
TPH C6-C8(aliphatic)	µg/l	–	1000[5]	7	< 1.0	-	No Further Action
TPH C8-C10(aliphatic)	µg/l	–	300	7	< 1.0	-	No Further Action
TPH C10-C12(aliphatic)	µg/l	–	300	7	< 10	-	No Further Action
TPH C12-C16(aliphatic)	µg/l	–	300	7	< 10	-	No Further Action
TPH C16-C21(aliphatic)	µg/l	–	300**	7	< 10	-	No Further Action

DETERMINAND	UNIT	EQS [1, 2] AA	DWS [3,4]	NO. OF SW SAMPLES	MAX CONC. IN SURFACE WATER	LOCATION OF EXCEEDANCE (EQS)	ASSESSMENT
TPH C21-C35(aliphatic)	µg/l	–	300**	7	< 10	-	No Further Action
Tetrachloroethylene	µg/l	0.4	10	7	< 1.0	-	No Further Action
Trichloroethylene	µg/l	10	10	7	< 1.0	-	No Further Action
Trichlorobenzene	µg/l	0.4	–	7	N/A	-	No Further Action
Trichloromethane	µg/l	2.5	–	7	< 1.0	-	No Further Action
Dichloromethane	µg/l	20	200	7	N/A	-	No Further Action
Carbon Tetrachloride	µg/l	12	3	7	N/A	-	No Further Action
Vinyl Chloride	µg/l	–	0.3	7	< 1.0	-	No Further Action

Notes

Solubility <0.01µg/l
AA – Annual Average
MAC- Maximum Admissible Concentration
* Polyaromatic hydrocarbons (PAH) - Benzo(a)pyrene (BaP), Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)-perylene and Indeno(1,2,3-cd)-pyrene. Benzo(a)pyrene can be considered as a marker for the other PAHs, hence only benzo(a)pyrene needs to be monitored for comparison with the biota EQS or the corresponding AA-EQS in water
** There are no WHO Guideline Values for aliphatic fractions C16-C21 and C21-C35, therefore the guideline value for aliphatic fractions inclusive of C8-C16 (300µg/l) has been applied.

1. The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 (legislation.gov.uk)
2. The Water Supply (Water Quality) Regulations 2018 (legislation.gov.uk)
3. Guidelines for drinking-water quality, 4th edition, incorporating the 1st addendum (who.int)
4. CL:AIRE publishes Petroleum Hydrocarbons in Groundwater guidance (claire.co.uk)
5. A total TPH criteria of 1000 mg/kg will act as a surrogate criterion for remaining aliphatic and aromatic TPH fractions.

APPENDIX II - DRAWINGS

APPENDIX III – CHEMICAL ANALYSIS

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Analytical Report Number : 21-62743

Replaces Analytical Report Number: 21-62743, issue no. 2
Client references/information amended.

Project / Site name:	Don Street - Parcel B&C	**Samples received on:**	15/03/2021
Your job number:	14 554	**Samples instructed on/ Analysis started on:**	15/03/2021
Your order number:	14554 VW O	**Analysis completed by:**	01/04/2021
Report Issue Number:	3	**Report issued on:**	06/05/2021
Samples Analysed:	2 leachate samples - 16 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554 VW O

Lab Sample Number				1803779	1803780	1803781	1803782	1803783
Sample Reference				TP301	TP305	TP306	TP310	TP313
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.50	0.80	0.10	0.10
Date Sampled				11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	19	13	24	18
Total mass of sample received	kg	0.001	NONE	1.2	0.50	0.50	0.50	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	-	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.002	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.002	-	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	-	7.3	6.0	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-	96	730	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	0.0026	0.0080	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	5.2	16	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	2.6	8.0	-
Sulphide	mg/kg	1	MCERTS	-	-	< 1.0	5.9	-
Total Sulphur	mg/kg	50	MCERTS	-	-	< 50	400	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	1.4	-	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.45	< 0.05	0.56	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.36	< 0.05	0.33	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	3.1	< 0.05	4.0	0.35
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.87	< 0.05	0.94	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	4.9	< 0.05	7.0	0.65
Pyrene	mg/kg	0.05	MCERTS	< 0.05	4.7	< 0.05	6.9	0.65
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	2.8	< 0.05	3.5	0.34
Chrysene	mg/kg	0.05	MCERTS	< 0.05	2.4	< 0.05	2.8	0.39
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	2.6	< 0.05	3.0	0.42
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	1.7	< 0.05	1.5	0.20
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	2.4	< 0.05	2.8	0.34
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	1.2	< 0.05	1.2	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.29	< 0.05	0.31	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	1.1	< 0.05	1.7	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	28.9	< 0.80	36.5	3.34

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Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554 VW O

Lab Sample Number				1803779	1803780	1803781	1803782	1803783
Sample Reference				TP301	TP305	TP306	TP310	TP313
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.50	0.80	0.10	0.10
Date Sampled				11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	49	30	5.9	21	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	3100	190	-	-	63
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	3.5	1.6	-	-	0.54
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	2.3	-	-	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	12	21	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	420	86	19	45	30
Lead (aqua regia extractable)	mg/kg	1	MCERTS	170	110	8.0	88	51
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	81	24	13	19	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	98	38	-	-	21
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	13000	280	36	92	51
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	26	< 4.0	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	72	< 1.0	20	23
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	160	< 1.0	32	61
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	17	< 10	< 10	11
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	280	< 10	53	97

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554 VW O

Lab Sample Number				1803784	1803785	1803786	1803787	1803788
Sample Reference				TP315	TP317	WS304	WS301	WS302
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.25	1.80	2.90	2.00
Date Sampled				11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	6.4	10	24	56	19
Total mass of sample received	kg	0.001	NONE	0.20	0.20	0.20	0.30	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	Not-detected	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	-	6.8	6.5	7.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-	570	3200	330
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	0.041	0.12	0.040
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	82	250	81
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	40.9	123	40.3
Sulphide	mg/kg	1	MCERTS	-	-	7.3	120	8.4
Total Sulphur	mg/kg	50	MCERTS	-	-	1400	31000	1100
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	2.2	16	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.1	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.39	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	5.2	0.59
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	3.8	0.47
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.68	< 0.05	30	3.3
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	5.6	0.61
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.78	< 0.05	40	4.2
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.69	< 0.05	39	4.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.32	< 0.05	17	1.9
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.41	< 0.05	12	1.4
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.33	< 0.05	14	1.2
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.12	< 0.05	6.5	1.0
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.27	< 0.05	11	1.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	5.7	0.33
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.3	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	7.2	0.45
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	3.60	< 0.80	200	21.0

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Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554 VW O

Lab Sample Number				1803784	1803785	1803786	1803787	1803788
Sample Reference				TP315	TP317	WS304	WS301	WS302
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.25	1.80	2.90	2.00
Date Sampled				11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.7	7.1	16	79	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	13	39	-	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.32	0.38	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3	< 0.2	4.0	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	18	22	9.4
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	20	38	130	34
Lead (aqua regia extractable)	mg/kg	1	MCERTS	5.7	28	44	200	59
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9.5	12	22	49	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	13	15	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	27	42	63	1400	55
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	3.3	14	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	10	94	11
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	8.6	13	450	21
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	17	48	1600	40
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	160	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	27	80	2300	74

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554 VW O

Lab Sample Number				1803789	1803790	1803791	1803792	1803793
Sample Reference				TP319	TP322	TP323	TP326	TP328
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.50	0.80	1.00	2.00
Date Sampled				11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	13	15	9.1	23
Total mass of sample received	kg	0.001	NONE	0.20	0.50	0.50	0.50	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	-	7.9	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	1.1	< 1.0	1.5
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-	820	-	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	0.048	-	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	96	-	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	47.8	-	-
Sulphide	mg/kg	1	MCERTS	-	-	7.4	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	420	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	-	2.0
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	2.2	< 0.05	0.46	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	1.8	< 0.05	0.44	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	9.2	< 0.05	4.2	< 0.05	1.2
Anthracene	mg/kg	0.05	MCERTS	2.2	< 0.05	1.3	< 0.05	0.32
Fluoranthene	mg/kg	0.05	MCERTS	10	< 0.05	5.9	< 0.05	2.0
Pyrene	mg/kg	0.05	MCERTS	8.3	< 0.05	5.7	< 0.05	2.0
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.5	< 0.05	3.0	< 0.05	1.0
Chrysene	mg/kg	0.05	MCERTS	2.8	< 0.05	2.2	< 0.05	0.81
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	4.2	< 0.05	3.5	< 0.05	1.2
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.2	< 0.05	1.3	< 0.05	0.37
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.9	< 0.05	3.2	< 0.05	0.92
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.8	< 0.05	1.4	< 0.05	0.39
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.42	< 0.05	0.41	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.9	< 0.05	1.5	< 0.05	0.49
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	54.1	< 0.80	34.4	< 0.80	10.6

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Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554 VW O

Lab Sample Number				1803789	1803790	1803791	1803792	1803793
Sample Reference				TP319	TP322	TP323	TP326	TP328
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.50	0.80	1.00	2.00
Date Sampled				11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.4	6.8	15	12	11
Barium (aqua regia extractable)	mg/kg	1	MCERTS	140	120	-	32	110
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.78	0.67	-	0.51	0.59
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.3	-	< 0.2	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	19	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	39	27	150	29	41
Lead (aqua regia extractable)	mg/kg	1	MCERTS	68	17	130	27	55
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	23	34	16	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	24	20	-	19	18
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	91	54	520	57	70
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	8.9	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	40	< 4.0	< 4.0	< 4.0	22
TPH (C16 - C21)	mg/kg	1	MCERTS	79	< 1.0	39	8.8	33
TPH (C21 - C35)	mg/kg	1	MCERTS	230	< 1.0	84	22	98
TPH (C35 - C40)	mg/kg	10	MCERTS	67	< 10	66	< 10	17
TPH Total C5 - C40	mg/kg	10	MCERTS	440	< 10	190	32	170

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Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554 VW O

Lab Sample Number				1803794
Sample Reference				WS307
Sample Number				None Supplied
Depth (m)				4.00
Date Sampled				11/03/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.001	NONE	0.50

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-
Asbestos Quantification Total	%	0.001	ISO 17025	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	88
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.0058
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	12
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	5.8
Sulphide	mg/kg	1	MCERTS	1.5
Total Sulphur	mg/kg	50	MCERTS	< 50
Total Organic Carbon (TOC)	%	0.1	MCERTS	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554 VW O

Lab Sample Number				1803794
Sample Reference				WS307
Sample Number				None Supplied
Depth (m)				4.00
Date Sampled				11/03/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	1.9
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	6.8
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	4.5
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	19

Petroleum Hydrocarbons

TPH (C5 - C6)	mg/kg	1	NONE	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-62743
Project / Site name: Don Street
Your Order No: 14554 VW O

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
1803780	TP105	0.50	157	Loose Fibres	**Chrysotile & Amosite**	0.002	**0.002**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C

Your Order No: 14554 VW O

Lab Sample Number				1803795	1803796
Sample Reference				TP301	TP323
Sample Number				None Supplied	None Supplied
Depth (m)				1.00	0.80
Date Sampled				11/03/2021	11/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH	pH Units	N/A	ISO 17025	8.0	8.1
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	5.4
Total Phenols					
Total Phenols (monohydric)	µg/l	1	ISO 17025	1.6	2.6
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	20	3.6
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	19	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	20	2.2
Copper (dissolved)	µg/l	0.7	ISO 17025	5.3	15
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	2.9
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.8	3.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	74	14
Monoaromatics & Oxygenates					
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10

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Analytical Report Number: 21-62743
Project / Site name: Don Street - Parcel B&C

Your Order No: 14554 VW O

Lab Sample Number				1803795	1803796
Sample Reference				TP301	TP323
Sample Number				None Supplied	None Supplied
Depth (m)				1.00	0.80
Date Sampled				11/03/2021	11/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Petroleum Hydrocarbons					
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-62743
Project / Site name: Don Street - Parcel B&C

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1803779	TP301	None Supplied	1	Light brown sand with gravel.
1803780	TP305	None Supplied	0.5	Grey clay and sand with gravel.
1803781	TP306	None Supplied	0.8	Brown clay and sand.
1803782	TP310	None Supplied	0.1	Brown loam and clay with vegetation and gravel
1803783	TP313	None Supplied	0.1	Brown loam and sand with gravel and vegetation.
1803784	TP315	None Supplied	0.7	Brown clay and sand with gravel.
1803785	TP317	None Supplied	0.25	Brown clay and loam with gravel and vegetation.
1803786	WS304	None Supplied	1.8	Brown clay and loam with gravel and vegetation.
1803787	WS301	None Supplied	2.9	Grey clay and sand with vegetation.
1803788	WS302	None Supplied	2	Brown clay and sand.
1803789	TP319	None Supplied	1	Brown clay and loam with gravel.
1803790	TP322	None Supplied	2.5	Brown clay and loam with gravel.
1803791	TP323	None Supplied	0.8	Brown loam and clay with gravel.
1803792	TP326	None Supplied	1	Brown clay and sand with gravel.
1803793	TP328	None Supplied	2	Brown clay and loam with gravel and vegetation.
1803794	WS307	None Supplied	4	Brown clay and sand with gravel.

Analytical Report Number : 21-62743
Project / Site name: Don Street - Parcel B&C

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate	Determination of pH in leachate by electrometric measurement.	In house method.	L005-PL	W	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

Analytical Report Number : 21-62743
Project / Site name: Don Street - Parcel B&C

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 21-64835

Replaces Analytical Report Number: 21-64835, issue no. 1
Client references/information amended.

Project / Site name:	Don Street	**Samples received on:**	24/03/2021
Your job number:	14 SS4	**Samples instructed on/ Analysis started on:**	24/03/2021
Your order number:	14 SS4 SE M	**Analysis completed by:**	31/03/2021
Report Issue Number:	2	**Report issued on:**	19/05/2021
Samples Analysed:	5 water samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-64835
Project / Site name: Don Street

Your Order No: 14 SS4 SE M

Lab Sample Number				1815634	1815635	1815636	1815637	1815638
Sample Reference				WS303	WS304	WS311	Down Stream	Up Stream
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/03/2021	23/03/2021	23/03/2021	23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.1	7.3	7.0	7.9	8.0
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	51	< 1.0	1.9	1.2	1.4
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	4.32	4.87	12.9	4.47	5.42
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Heavy Metals / Metalloids								
Calcium (dissolved)	mg/l	0.012	ISO 17025	120	140	220	95	97
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	8.28	4.52	3.32	2.85	2.72
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.03	< 0.02	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.9	2.0	4.7	1.4	1.2
Copper (dissolved)	µg/l	0.5	ISO 17025	0.7	4.6	3.0	6.0	6.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.7	0.8	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	2200	990	2200	17	59
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.5	1.6	4.1	2.1	1.9
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	< 0.6	0.9	0.8	0.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.6	3.1	6.3	7.8	7.9
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 21-64835
Project / Site name: Don Street

Your Order No: 14 SS4 SE M

Lab Sample Number				1815634	1815635	1815636	1815637	1815638
Sample Reference				WS303	WS304	WS311	Down Stream	Up Stream
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/03/2021	23/03/2021	23/03/2021	23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 21-64835
Project / Site name: Don Street

Your Order No: 14 SS4 SE M

Lab Sample Number				1815634	1815635	1815636	1815637	1815638
Sample Reference				WS303	WS304	WS311	Down Stream	Up Stream
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/03/2021	23/03/2021	23/03/2021	23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	1.9	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	0.60	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

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Analytical Report Number: 21-64835
Project / Site name: Don Street

Your Order No: 14 SS4 SE M

Lab Sample Number				1815634	1815635	1815636	1815637	1815638
Sample Reference				WS303	WS304	WS311	Down Stream	Up Stream
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/03/2021	23/03/2021	23/03/2021	23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	0.88	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	0.37	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	0.50	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	0.78	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-64835
Project / Site name: Don Street

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 21-65321

Replaces Analytical Report Number: 21-65321, issue no. 1
Additional analysis undertaken.

Project / Site name:	Don Street - Parcel B&C	**Samples received on:**	25/03/2021
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	26/03/2021
Your order number:	14554-ND-V	**Analysis completed by:**	07/05/2021
Report Issue Number:	2	**Report issued on:**	07/05/2021
Samples Analysed:	2 leachate samples - 17 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554-ND-V

Lab Sample Number				1818404	1818405	1818406	1818407	1818408
Sample Reference				TP331	TP333	TP335	TP336	TP338
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.50	1.00	2.00	1.00
Date Sampled				23/03/2021	23/03/2021	23/03/2021	23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	24	9.1	15	4.6	11
Total mass of sample received	kg	0.001	NONE	0.50	0.20	1.2	0.50	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.2	-	-	7.5	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	850	-	-	180	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.015	-	-	0.034	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	30	-	-	67	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	15.2	-	-	33.5	-
Sulphide	mg/kg	1	MCERTS	1.4	-	-	< 1.0	-
Total Sulphur	mg/kg	50	MCERTS	490	-	-	62	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	1.1	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.37	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.23	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.3	2.4	0.80	0.39	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.29	0.50	0.20	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	2.8	3.7	1.2	0.47	< 0.05
Pyrene	mg/kg	0.05	MCERTS	2.8	3.7	1.2	0.47	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.0	2.1	0.70	0.25	< 0.05
Chrysene	mg/kg	0.05	MCERTS	1.6	1.7	0.64	0.22	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.7	1.5	0.67	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.1	1.2	0.28	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.7	1.9	0.65	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.97	0.90	0.37	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.2	1.1	0.44	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	17.3	21.2	7.14	1.80	< 0.80

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Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554-ND-V

Lab Sample Number				1818404	1818405	1818406	1818407	1818408
Sample Reference				TP331	TP333	TP335	TP336	TP338
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.50	1.00	2.00	1.00
Date Sampled				23/03/2021	23/03/2021	23/03/2021	23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	32	11	13	5.1	8.5
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	180	150	-	64
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	0.81	0.82	-	0.31
Boron (water soluble)	mg/kg	0.2	MCERTS	-	0.4	0.7	-	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.6	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	-	-	6.9	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	47	54	18	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	190	69	70	10	15
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	71	23	21	8.1	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	25	27	-	16
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	810	110	120	32	36
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	4.2	5.3	2.4	3.6	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	5.9	12	< 4.0	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	21	53	8.9	5.2	< 1.0
TPH (C21 - C35)	mg/kg	1	MCERTS	75	460	27	9.1	< 1.0
TPH (C35 - C40)	mg/kg	10	MCERTS	15	93	< 10	< 10	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	130	630	43	24	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554-ND-V

Lab Sample Number				1818409	1818410	1818411	1818412	1818413
Sample Reference				TP341	TP342	TP343	TP347	TP348
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	2.00	0.60	1.00
Date Sampled				23/03/2021	23/03/2021	23/03/2021	24/03/2021	24/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	25	13	13	11
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.30	0.50	1.2
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	-	-	7.8	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-	-	350	320
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	-	0.053	0.037
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	-	110	74
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	-	53.1	37.0
Sulphide	mg/kg	1	MCERTS	-	-	-	3.1	5.9
Total Sulphur	mg/kg	50	MCERTS	-	-	-	450	180
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	1.3	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	1.8
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	1.5	1.8	< 0.05	1.7	1.1
Fluorene	mg/kg	0.05	MCERTS	1.1	1.3	< 0.05	1.4	0.95
Phenanthrene	mg/kg	0.05	MCERTS	9.9	7.5	< 0.05	9.5	5.4
Anthracene	mg/kg	0.05	MCERTS	2.4	1.4	< 0.05	2.7	1.4
Fluoranthene	mg/kg	0.05	MCERTS	16	5.6	< 0.05	15	6.2
Pyrene	mg/kg	0.05	MCERTS	15	4.9	< 0.05	14	5.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.9	2.6	< 0.05	7.2	3.5
Chrysene	mg/kg	0.05	MCERTS	6.3	2.1	< 0.05	4.9	2.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	6.5	1.7	< 0.05	4.4	2.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.7	1.2	< 0.05	3.1	1.8
Benzo(a)pyrene	mg/kg	0.05	MCERTS	7.4	1.9	< 0.05	4.9	2.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.0	0.84	< 0.05	2.1	1.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.75	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.3	1.1	< 0.05	2.6	1.4
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	85.8	33.8	< 0.80	73.4	38.0

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Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554-ND-V

Lab Sample Number				1818409	1818410	1818411	1818412	1818413
Sample Reference				TP341	TP342	TP343	TP347	TP348
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	2.00	0.60	1.00
Date Sampled				23/03/2021	23/03/2021	23/03/2021	24/03/2021	24/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.5	13	5.3	7.2	7.0
Barium (aqua regia extractable)	mg/kg	1	MCERTS	55	70	21	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.34	0.70	0.41	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.3	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	21	35
Copper (aqua regia extractable)	mg/kg	1	MCERTS	31	36	23	40	30
Lead (aqua regia extractable)	mg/kg	1	MCERTS	58	60	8.7	32	24
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	4.0	0.4	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.3	14	9.7	25	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	10	25	12	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	44	62	31	70	69
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	2.1	< 2.0	< 2.0	< 2.0	4.5
TPH (C12 - C16)	mg/kg	4	MCERTS	8.7	7.6	< 4.0	28	7.5
TPH (C16 - C21)	mg/kg	1	MCERTS	58	34	< 1.0	73	22
TPH (C21 - C35)	mg/kg	1	MCERTS	99	36	< 1.0	120	46
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	29	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	170	80	< 10	250	87

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Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554-ND-V

Lab Sample Number				1818414	1818415	1818416	1818417	1818418
Sample Reference				TP350	TP351	TP356	WS313	WS319
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.00	1.00	0.20	0.20
Date Sampled				24/03/2021	24/03/2021	24/03/2021	24/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	8.4	13	11	10
Total mass of sample received	kg	0.001	NONE	1.2	0.50	0.50	0.50	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	-	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	-	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.2	-	6.5	-	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	320	-	150	-	570
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.045	-	0.019	-	0.021
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	90	-	37	-	42
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	44.8	-	18.6	-	21.2
Sulphide	mg/kg	1	MCERTS	11	-	< 1.0	-	1.7
Total Sulphur	mg/kg	50	MCERTS	250	-	53	-	250
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	2.1	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.78	17	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	2.2	21	< 0.05	< 0.05	0.18
Fluorene	mg/kg	0.05	MCERTS	2.1	17	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	13	47	0.30	0.42	1.9
Anthracene	mg/kg	0.05	MCERTS	3.6	10	< 0.05	< 0.05	0.39
Fluoranthene	mg/kg	0.05	MCERTS	15	86	0.24	0.51	3.7
Pyrene	mg/kg	0.05	MCERTS	13	71	0.24	0.62	3.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.0	71	< 0.05	0.24	2.4
Chrysene	mg/kg	0.05	MCERTS	5.7	18	< 0.05	0.30	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	5.2	53	< 0.05	< 0.05	2.2
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.3	10	< 0.05	< 0.05	1.2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5.6	58	< 0.05	< 0.05	2.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.4	14	< 0.05	< 0.05	1.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.60	2.1	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.9	16	< 0.05	< 0.05	1.3
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	82.6	513	< 0.80	2.09	22.1

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Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554-ND-V

Lab Sample Number				1818414	1818415	1818416	1818417	1818418
Sample Reference				TP350	TP351	TP356	WS313	WS319
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.00	1.00	0.20	0.20
Date Sampled				24/03/2021	24/03/2021	24/03/2021	24/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	8.8	7.0	17	8.6
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	180	-	61	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	0.78	-	0.75	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	0.4	-	0.4	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.6	0.7	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	-	16	-	24
Copper (aqua regia extractable)	mg/kg	1	MCERTS	37	45	26	58	99
Lead (aqua regia extractable)	mg/kg	1	MCERTS	69	50	29	60	67
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	23	17	17	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	22	-	28	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	98	85	71	72	98
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	52	< 2.0	< 2.0	9.5
TPH (C12 - C16)	mg/kg	4	MCERTS	12	110	< 4.0	< 4.0	14
TPH (C16 - C21)	mg/kg	1	MCERTS	54	250	< 1.0	12	40
TPH (C21 - C35)	mg/kg	1	MCERTS	81	330	< 1.0	21	130
TPH (C35 - C40)	mg/kg	10	MCERTS	13	77	< 10	< 10	46
TPH Total C5 - C40	mg/kg	10	MCERTS	160	880	< 10	35	250

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Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554-ND-V

Lab Sample Number				1818419	1818420
Sample Reference				WS320	WS322
Sample Number				None Supplied	None Supplied
Depth (m)				0.20	0.20
Date Sampled				23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	19
Total mass of sample received	kg	0.001	NONE	0.50	0.50

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-
Sulphide	mg/kg	1	MCERTS	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.2	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	1.3
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	1.5
Pyrene	mg/kg	0.05	MCERTS	< 0.05	1.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.84
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.65
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.75
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.48
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.83
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.36
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.44

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	8.52

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C
Your Order No: 14554-ND-V

Lab Sample Number				1818419	1818420
Sample Reference				WS320	WS322
Sample Number				None Supplied	None Supplied
Depth (m)				0.20	0.20
Date Sampled				23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	16
Barium (aqua regia extractable)	mg/kg	1	MCERTS	120	73
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.83	0.66
Boron (water soluble)	mg/kg	0.2	MCERTS	0.2	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	52	48
Lead (aqua regia extractable)	mg/kg	1	MCERTS	70	63
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	88	91
Petroleum Hydrocarbons					
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	6.4
TPH (C16 - C21)	mg/kg	1	MCERTS	5.7	15
TPH (C21 - C35)	mg/kg	1	MCERTS	11	32
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	16
TPH Total C5 - C40	mg/kg	10	MCERTS	19	71

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-65321
Project / Site name: Don Street
Your Order No: 14554-ND-V

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
1818415	TP351	1.00	243	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C

Your Order No: 14554-ND-V

Lab Sample Number				1818435	1818436
Sample Reference				TP335	TP348
Sample Number				None Supplied	None Supplied
Depth (m)				1.00	1.00
Date Sampled				23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH	pH Units	N/A	ISO 17025	8.6	8.0
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0
Total Phenols					
Total Phenols (monohydric)	µg/l	1	ISO 17025	1.8	2.9
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.8	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	9.9	8.0
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	1.1
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.6	1.9
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	8.4	9.4
Monoaromatics & Oxygenates					
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10

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Analytical Report Number: 21-65321
Project / Site name: Don Street - Parcel B&C

Your Order No: 14554-ND-V

Lab Sample Number				1818435	1818436
Sample Reference				TP335	TP348
Sample Number				None Supplied	None Supplied
Depth (m)				1.00	1.00
Date Sampled				23/03/2021	23/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Petroleum Hydrocarbons					
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-65321
Project / Site name: Don Street - Parcel B&C

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1818404	TP331	None Supplied	0.2	Brown clay and sand with vegetation.
1818405	TP333	None Supplied	0.5	Brown loam and clay with gravel and vegetation.
1818406	TP335	None Supplied	1	Brown clay with gravel and vegetation.
1818407	TP336	None Supplied	2	Brown sand with gravel.
1818408	TP338	None Supplied	1	Brown clay and sand with gravel.
1818409	TP341	None Supplied	0.5	Brown clay and loam with gravel and vegetation.
1818410	TP342	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
1818411	TP343	None Supplied	2	Brown clay and loam with gravel.
1818412	TP347	None Supplied	0.6	Brown clay and loam with gravel.
1818413	TP348	None Supplied	1	Brown clay and sand with gravel.
1818414	TP350	None Supplied	1	Brown clay and loam with gravel.
1818415	TP351	None Supplied	1	Brown loam and sand with gravel.
1818416	TP356	None Supplied	1	Brown clay and sand with gravel.
1818417	WS313	None Supplied	0.2	Brown loam with gravel and vegetation.
1818418	WS319	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
1818419	WS320	None Supplied	0.2	Brown clay and sand with gravel and vegetation.
1818420	WS322	None Supplied	0.2	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 21-65321
Project / Site name: Don Street - Parcel B&C

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate	Determination of pH in leachate by electrometric measurement.	In house method.	L005-PL	W	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

Analytical Report Number : 21-65321
Project / Site name: Don Street - Parcel B&C

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 21-66370

Replaces Analytical Report Number: 21-66370, issue no. 2
Client references/information amended.

Project / Site name:	Don Street Parcel A	**Samples received on:**	31/03/2021
Your job number:	14 554	**Samples instructed on/ Analysis started on:**	01/04/2021
Your order number:	14554 ND W	**Analysis completed by:**	06/05/2021
Report Issue Number:	3	**Report issued on:**	06/05/2021
Samples Analysed:	2 leachate samples - 14 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Lab Sample Number				1824203	1824204	1824205	1824206	1824207
Sample Reference				TP209	TP210	TP210	TP211	WS201A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	0.50	1.20	1.20	0.50
Date Sampled				30/03/2021	30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.1	13	11	15	11
Total mass of sample received	kg	0.001	NONE	0.40	1.0	0.40	0.50	0.40
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.4	-	6.4	-	6.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	3700	-	410	-	560
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.37	-	0.058	-	0.025
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	750	-	120	-	49
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	375	-	57.7	-	24.7
Sulphide	mg/kg	1	MCERTS	33	-	9.8	-	1.4
Total Sulphur	mg/kg	50	MCERTS	2100	-	800	-	470
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	1.5	-	1.3	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	1.5	-	< 0.05	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	2.2	-	< 0.05	-	< 0.05
Fluorene	mg/kg	0.05	MCERTS	1.5	-	< 0.05	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	10	-	< 0.05	-	0.91
Anthracene	mg/kg	0.05	MCERTS	2.4	-	< 0.05	-	0.23
Fluoranthene	mg/kg	0.05	MCERTS	16	-	< 0.05	-	1.3
Pyrene	mg/kg	0.05	MCERTS	14	-	< 0.05	-	1.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	7.5	-	< 0.05	-	0.63
Chrysene	mg/kg	0.05	MCERTS	6.7	-	< 0.05	-	0.54
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	7.5	-	< 0.05	-	0.60
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.3	-	< 0.05	-	0.29
Benzo(a)pyrene	mg/kg	0.05	MCERTS	7.3	-	< 0.05	-	0.55
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.3	-	< 0.05	-	0.31
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.80	-	< 0.05	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.6	-	< 0.05	-	0.37
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	87.7	-	< 0.80	-	7.01

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Lab Sample Number				1824203	1824204	1824205	1824206	1824207
Sample Reference				TP209	TP210	TP210	TP211	WS201A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	0.50	1.20	1.20	0.50
Date Sampled				30/03/2021	30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	29	-	10	-	27
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.8	-	< 0.2	-	3.6
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	-	< 4.0	-	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	37	-	16	-	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	88	-	30	-	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	310	-	18	-	140
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	-	13	-	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	360	-	60	-	360
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	-	< 1.0	-	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	11	-	< 2.0	-	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	24	-	< 4.0	-	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	57	-	< 1.0	-	3.9
TPH (C21 - C35)	mg/kg	1	MCERTS	150	-	< 1.0	-	17
TPH (C35 - C40)	mg/kg	10	MCERTS	41	-	< 10	-	12
TPH Total C5 - C40	mg/kg	10	MCERTS	300	-	< 10	-	35
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-

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Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Lab Sample Number				1824203	1824204	1824205	1824206	1824207
Sample Reference				TP209	TP210	TP210	TP211	WS201A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	0.50	1.20	1.20	0.50
Date Sampled				30/03/2021	30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Lab Sample Number				1824208	1824209	1824210	1824211	1824212
Sample Reference				WS202B	WS202B	WS203	WS205	WS206
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.90	2.90	1.50	1.50	0.90
Date Sampled				30/03/2021	30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	29	27	23	9.1
Total mass of sample received	kg	0.001	NONE	1.0	0.50	0.50	0.50	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Detected	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	0.002	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	0.002	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	5.1	7.1	6.5	7.5	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Sulphate as SO4	mg/kg	50	MCERTS	2300	550	1500	280	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.046	0.078	0.30	0.032	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	92	160	600	65	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	46.0	78.2	301	32.3	-
Sulphide	mg/kg	1	MCERTS	< 1.0	16	21	1.4	-
Total Sulphur	mg/kg	50	MCERTS	970	1100	2200	180	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	-	3.6
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.50	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.46	< 0.05	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.29	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	0.96	< 0.05	3.0	< 0.05	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.61	< 0.05	-
Fluoranthene	mg/kg	0.05	MCERTS	0.40	< 0.05	6.1	< 0.05	-
Pyrene	mg/kg	0.05	MCERTS	0.33	< 0.05	6.0	< 0.05	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.19	< 0.05	3.1	< 0.05	-
Chrysene	mg/kg	0.05	MCERTS	0.25	< 0.05	2.5	< 0.05	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	3.0	< 0.05	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.4	< 0.05	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	2.8	< 0.05	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.4	< 0.05	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.36	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.5	< 0.05	-
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.13	< 0.80	33.1	< 0.80	-

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Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Lab Sample Number				1824208	1824209	1824210	1824211	1824212
Sample Reference				WS202B	WS202B	WS203	WS205	WS206
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.90	2.90	1.50	1.50	0.90
Date Sampled				30/03/2021	30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	24	10	53	9.7	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.6	< 0.2	< 0.2	-
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	11	11	23	10	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	55	27	120	21	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	34	12	160	14	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.4	24	40	11	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	25	62	170	38	-
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	-
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	-
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	-
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	8.0	< 2.0	-
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	5.7	14	< 4.0	-
TPH (C16 - C21)	mg/kg	1	MCERTS	7.9	7.2	27	5.7	-
TPH (C21 - C35)	mg/kg	1	MCERTS	18	17	56	12	-
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	23	< 10	-
TPH Total C5 - C40	mg/kg	10	MCERTS	28	32	140	20	-
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	0.50	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-

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Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Lab Sample Number				1824208	1824209	1824210	1824211	1824212
Sample Reference				WS202B	WS202B	WS203	WS205	WS206
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.90	2.90	1.50	1.50	0.90
Date Sampled				30/03/2021	30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Acenaphthene	mg/kg	0.05	MCERTS	-	-	0.46	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	0.29	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	3.0	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	0.61	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	6.1	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	6.0	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	3.1	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	2.5	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	3.0	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	1.4	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	2.8	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	1.4	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.36	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	1.5	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Lab Sample Number				1824213	1824214	1824215	1824216
Sample Reference				WS207	WS208	WS209	WS209
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	0.50	2.50
Date Sampled				30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	7.9	13	13	18
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	6.7	-	8.0	7.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	540	-	36000	490
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.063	-	1.2	0.14
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	130	-	2400	280
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	62.8	-	1190	140
Sulphide	mg/kg	1	MCERTS	< 1.0	-	11	21
Total Sulphur	mg/kg	50	MCERTS	330	-	18000	1100
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	0.6	-	-
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	0.31	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	0.26	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.29	-	4.0	0.66
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-	0.98	0.17
Fluoranthene	mg/kg	0.05	MCERTS	0.51	-	6.3	1.6
Pyrene	mg/kg	0.05	MCERTS	0.60	-	6.3	1.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.28	-	3.4	1.1
Chrysene	mg/kg	0.05	MCERTS	0.22	-	3.3	0.77
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.29	-	3.4	0.87
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.11	-	1.7	0.58
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.28	-	3.8	1.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	1.7	0.41
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	0.50	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	2.0	0.55
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.58	-	37.8	9.47

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Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Lab Sample Number				1824213	1824214	1824215	1824216
Sample Reference				WS207	WS208	WS209	WS209
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	0.50	2.50
Date Sampled				30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	-	16	8.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	1.3	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	-	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	-	24	7.3
Copper (aqua regia extractable)	mg/kg	1	MCERTS	34	-	310	37
Lead (aqua regia extractable)	mg/kg	1	MCERTS	27	-	320	53
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	-	24	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	51	-	650	55
Petroleum Hydrocarbons							
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	-	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	7.6	-	3.2	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	8.1	-	< 4.0	4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	17	-	19	21
TPH (C21 - C35)	mg/kg	1	MCERTS	100	-	55	71
TPH (C35 - C40)	mg/kg	10	MCERTS	83	-	46	20
TPH Total C5 - C40	mg/kg	10	MCERTS	230	-	130	120
SVOCs							
Aniline	mg/kg	0.1	NONE	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-

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Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Lab Sample Number				1824213	1824214	1824215	1824216
Sample Reference				WS207	WS208	WS209	WS209
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	0.50	2.50
Date Sampled				30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A
Your Order No: 14554 ND W

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
1824210	WS103	1.50	145	Loose Fibres	**Chrysotile**	0.002	**0.002**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A

Your Order No: 14554 ND W

Lab Sample Number				1824217	1824218
Sample Reference				WS202B	WS206
Sample Number				None Supplied	None Supplied
Depth (m)				1.90	0.90
Date Sampled				30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH	pH Units	N/A	ISO 17025	6.8	8.4
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0
Total Phenols					
Total Phenols (monohydric)	µg/l	1	ISO 17025	2.8	2.7
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	28	4.2
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.7	0.9
Copper (dissolved)	µg/l	0.7	ISO 17025	8.2	9.6
Lead (dissolved)	µg/l	1	ISO 17025	1.9	4.1
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.5	1.9
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	13	12
Monoaromatics & Oxygenates					
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10

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Analytical Report Number: 21-66370
Project / Site name: Don Street Parcel A

Your Order No: 14554 ND W

Lab Sample Number				1824217	1824218
Sample Reference				WS202B	WS206
Sample Number				None Supplied	None Supplied
Depth (m)				1.90	0.90
Date Sampled				30/03/2021	30/03/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Petroleum Hydrocarbons					
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-66370
Project / Site name: Don Street Parcel A

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1824203	TP209	None Supplied	0.8	Brown loam and sand with gravel.
1824204	TP210	None Supplied	0.5	Brown loam and sand with gravel.
1824205	TP210	None Supplied	1.2	Brown clay and loam with gravel.
1824206	TP211	None Supplied	1.2	Brown clay and loam with gravel.
1824207	WS201A	None Supplied	0.5	Brown loam and clay with gravel.
1824208	WS202B	None Supplied	1.9	Brown clay and loam with gravel and vegetation.
1824209	WS202B	None Supplied	2.9	Brown clay and loam with gravel.
1824210	WS203	None Supplied	1.5	Brown sandy loam with gravel and vegetation.
1824211	WS205	None Supplied	1.5	Brown loam and clay with gravel.
1824212	WS206	None Supplied	0.9	Brown loam and sand with gravel.
1824213	WS207	None Supplied	0.5	Brown sandy loam with gravel and vegetation.
1824214	WS208	None Supplied	1.5	Brown loam and sand with gravel.
1824215	WS209	None Supplied	0.5	Brown loam and sand with gravel and vegetation.
1824216	WS209	None Supplied	2.5	Brown sandy loam with gravel.

Analytical Report Number : 21-66370
Project / Site name: Don Street Parcel A

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate	Determination of pH in leachate by electrometric measurement.	In house method.	L005-PL	W	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

Analytical Report Number : 21-66370
Project / Site name: Don Street Parcel A

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 21-74279

Project / Site name:	Don Street	**Samples received on:**	11/05/2021
Your job number:	14554	**Samples instructed on/ Analysis started on:**	12/05/2021
Your order number:	14-554-SE-N	**Analysis completed by:**	17/05/2021
Report Issue Number:	1	**Report issued on:**	17/05/2021
Samples Analysed:	2 water samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-74279
Project / Site name: Don Street

Your Order No: 14-554-SE-N

Lab Sample Number				1867271	1867272
Sample Reference				WS202C	WS207
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				10/05/2021	10/05/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Environmental Forensics					
PFOS	µg/l	0.05	NONE	< 0.05	< 0.05
PFOA	µg/l	0.05	NONE	< 0.05	< 0.05

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 21-74279
Project / Site name: Don Street

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TO - PFOS in water	Analysed by LC-MS in SIM with ISTD correction	In-house method		W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 22-44468

Replaces Analytical Report Number: 22-44468, issue no. 1
Client references/information amended.

Project / Site name:	Don St	**Samples received on:**	09/03/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	09/03/2022
Your order number:	001209	**Analysis completed by:**	20/04/2022
Report Issue Number:	2	**Report issued on:**	20/04/2022
Samples Analysed:	4 water samples		

Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH	pH Units	N/A	ISO 17025	7.8	7.8	7.5	7.5
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	7.24	5.92	5.12	4.94
Total Phenols							
Total Phenols (monohydric)	µg/l	1	ISO 17025	4.2	< 1.0	1.3	2.7
Heavy Metals / Metalloids							
Calcium (dissolved)	mg/l	0.012	ISO 17025	80	79	87	77
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	3.33	3.5	0.64	1.02
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.6	1.5	1.9	1.9
Copper (dissolved)	µg/l	0.5	ISO 17025	5.5	7.5	5	4.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	0.3
Manganese (dissolved)	µg/l	0.05	ISO 17025	200	210	510	810
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.7	2.6	1.5	1.9
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.9	0.8	< 0.6	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	10	12	4.5	2.2
Monoaromatics & Oxygenates							
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH1 (C10 - C40) EH_2D_TOTAL_#1_#2	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10

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Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
VOCs							
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
SVOCs							
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-44468
Project / Site name: Don St

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel

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Analytical Report Number : 22-44468
Project / Site name: Don St

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
1D	GC - Single coil/column gas chromatography				
2D	GC-GC - Double coil/column gas chromatography				
Total	Aliphatics & Aromatics				
AL	Aliphatics				
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
_	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

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Analytical Report Number : 21-51712

Replaces Analytical Report Number: 21-51712, issue no. 2
Client references/information amended.

Project / Site name:	Don Street - Parcel D&E	**Samples received on:**	18/01/2021
Your job number:	14 554	**Samples instructed on/ Analysis started on:**	18/01/2021
Your order number:	14 554 SE	**Analysis completed by:**	06/05/2021
Report Issue Number:	3	**Report issued on:**	20/05/2021
Samples Analysed:	1 leachate sample - 16 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740403	1740404	1740405	1740406	1740407
Sample Reference				TP427	TP404	TP401	TP407	TP407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.50	0.60	1.70
Date Sampled				Deviating	13/01/2021	13/01/2021	13/01/2021	13/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	16	17	30	18
Total mass of sample received	kg	0.001	NONE	1.4	1.0	0.50	0.40	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile & Amosite & Crocidolite	Chrysotile & Amosite	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Detected	Detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	0.039	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	0.039	< 0.001	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	8.2	-	7.9	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	13	37	5
Total Sulphate as SO4	mg/kg	50	MCERTS	-	2100	-	1300	1100
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	0.064	-	0.18	0.15
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	130	-	360	300
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	63.9	-	182	151
Sulphide	mg/kg	1	MCERTS	-	73	-	390	410
Total Sulphur	mg/kg	50	MCERTS	-	1200	-	2900	1400
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	2.1	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.22	0.93	< 0.05	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.50	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	1.5	< 0.05	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	1.5	< 0.05	-	-
Phenanthrene	mg/kg	0.05	MCERTS	0.29	14	1.2	-	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	3.2	0.31	-	-
Fluoranthene	mg/kg	0.05	MCERTS	0.45	14	1.5	-	-
Pyrene	mg/kg	0.05	MCERTS	0.50	13	1.4	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.35	9.8	0.84	-	-
Chrysene	mg/kg	0.05	MCERTS	0.31	7.2	0.79	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.34	8.8	0.82	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.17	3.7	0.39	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.33	7.9	0.80	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	3.5	0.40	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	1.2	< 0.05	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	4.2	0.54	-	-
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.96	93.7	8.89	-	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740403	1740404	1740405	1740406	1740407
Sample Reference				TP427	TP404	TP401	TP407	TP407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.50	0.60	1.70
Date Sampled				Deviating	13/01/2021	13/01/2021	13/01/2021	13/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	35	26	13	23	28
Barium (aqua regia extractable)	mg/kg	1	MCERTS	140	-	130	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.5	-	0.73	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	-	1.2	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	18	-	21	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	62	95	36	120	86
Lead (aqua regia extractable)	mg/kg	1	MCERTS	120	210	65	210	170
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	33	20	25	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	47	-	29	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	810	130	310	240
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	-	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	-	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	< 1.0	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	-	-	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	-	-	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	11	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	46	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	200	-
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	260	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	-	-	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	-	-	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	40	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	75	-
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	120	-
TPH Total C5 - C40	mg/kg	10	MCERTS	-	-	-	-	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740403	1740404	1740405	1740406	1740407
Sample Reference				TP427	TP404	TP401	TP407	TP407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.50	0.60	1.70
Date Sampled				Deviating	13/01/2021	13/01/2021	13/01/2021	13/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	-	-
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	17	23	-	-
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	180	81	-	-
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	950	170	-	-
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	57	37	-	-
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	1200	320	-	-
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Chloroethane	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Tribromomethane	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740403	1740404	1740405	1740406	1740407
Sample Reference				TP427	TP404	TP401	TP407	TP407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.50	0.60	1.70
Date Sampled				Deviating	13/01/2021	13/01/2021	13/01/2021	13/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Butylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	0.68	0.33
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	0.65	0.31
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	-	0.74	0.31
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740403	1740404	1740405	1740406	1740407
Sample Reference				TP427	TP404	TP401	TP407	TP407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.50	0.60	1.70
Date Sampled				Deviating	13/01/2021	13/01/2021	13/01/2021	13/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	3.4	2.2
Anthracene	mg/kg	0.05	MCERTS	-	-	-	1.2	0.50
Carbazole	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	5.3	2.8
Pyrene	mg/kg	0.05	MCERTS	-	-	-	4.7	2.6
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	3.5	1.9
Chrysene	mg/kg	0.05	MCERTS	-	-	-	2.6	1.4
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	4.0	2.1
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	0.83	0.59
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	2.5	1.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	1.3	0.77
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	0.45	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	1.6	0.95

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740408	1740409	1740410	1740411	1740412
Sample Reference				TP409	TP409	WS401	WS402	WS407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.20	1.20	1.20	1.50
Date Sampled				13/01/2021	13/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	18	14	13	18
Total mass of sample received	kg	0.001	NONE	0.40	0.40	0.40	0.40	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	Chrysotile	-	Chrysotile	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	-	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	-	0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	-	0.001	< 0.001
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.8	7.8	-	-	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	1
Total Sulphate as SO4	mg/kg	50	MCERTS	760	440	-	-	440
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.090	0.035	-	-	0.059
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	180	70	-	-	120
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	90.2	35.0	-	-	58.5
Sulphide	mg/kg	1	MCERTS	110	76	-	-	33
Total Sulphur	mg/kg	50	MCERTS	1000	610	-	-	540
Total Organic Carbon (TOC)	%	0.1	MCERTS	2.2	-	-	1.1	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	-	0.20	0.23	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	0.24
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	0.20
Phenanthrene	mg/kg	0.05	MCERTS	-	-	0.37	1.7	1.7
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.44	0.36
Fluoranthene	mg/kg	0.05	MCERTS	-	-	0.47	2.2	2.0
Pyrene	mg/kg	0.05	MCERTS	-	-	0.45	2.1	2.0
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	0.32	1.4	1.4
Chrysene	mg/kg	0.05	MCERTS	-	-	0.24	1.3	1.3
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	0.32	1.9	2.0
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	0.13	0.56	0.40
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	0.26	1.6	1.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.87	0.83
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.20	0.24
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.0	1.2
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	2.76	15.5	15.3

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740408	1740409	1740410	1740411	1740412
Sample Reference				TP409	TP409	WS401	WS402	WS407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.20	1.20	1.20	1.50
Date Sampled				13/01/2021	13/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	27	20	12	12	18
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	170	140	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	-	0.95	0.67	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	3.8	0.7	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	22	-	-	64
Copper (aqua regia extractable)	mg/kg	1	MCERTS	70	73	32	75	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	230	120	83	110	91
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	29	25	21	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	26	45	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	190	140	140	350	180
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	5.4	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	6.3	19	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	33	23	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	160	93	-	-	-
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	-	12	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	200	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	16	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	20	35	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	61	150	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	110	170	-	-	-
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	-	10	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	190	-	-	-	-
TPH Total C5 - C40	mg/kg	10	MCERTS	-	540	-	-	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740408	1740409	1740410	1740411	1740412
Sample Reference				TP409	TP409	WS401	WS402	WS407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.20	1.20	1.20	1.50
Date Sampled				13/01/2021	13/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
TPH (C5 - C6)	mg/kg	1	NONE	-	-	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	-	-	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	-	-	< 4.0	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	-	-	< 1.0	16	43
TPH (C21 - C35)	mg/kg	1	MCERTS	-	-	< 1.0	43	150
TPH (C35 - C40)	mg/kg	10	MCERTS	-	-	< 10	35	17
TPH Total C5 - C40	mg/kg	10	MCERTS	-	-	< 10	96	210
VOCs								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
Chloroethane	µg/kg	1	NONE	< 1.0	< 1.0	-	-	-
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
Vinyl Chloride	µg/kg	1	NONE	< 1.0	< 1.0	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	< 1.0	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	-	-	-
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
Tetrachloroethene	µg/kg	1	NONE	< 1.0	< 1.0	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Tribromomethane	µg/kg	1	NONE	< 1.0	< 1.0	-	-	-
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740408	1740409	1740410	1740411	1740412
Sample Reference				TP409	TP409	WS401	WS402	WS407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.20	1.20	1.20	1.50
Date Sampled				13/01/2021	13/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	-	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	1.8	14	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	1.0	3.4	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	4.0	9.2	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	1.6	3.6	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
Fluorene	mg/kg	0.05	MCERTS	2.7	6.1	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740408	1740409	1740410	1740411	1740412
Sample Reference				TP409	TP409	WS401	WS402	WS407
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.20	1.20	1.20	1.50
Date Sampled				13/01/2021	13/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	19	40	-	-	-
Anthracene	mg/kg	0.05	MCERTS	4.2	8.7	-	-	-
Carbazole	mg/kg	0.3	MCERTS	1.1	2.8	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	1.0	2.0	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	19	39	-	-	-
Pyrene	mg/kg	0.05	MCERTS	17	33	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	12	21	-	-	-
Chrysene	mg/kg	0.05	MCERTS	8.3	18	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	11	25	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	4.6	5.7	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	9.9	19	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	4.7	9.1	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.2	2.2	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	5.8	11	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740413	1740414	1740415	1740416	1740417
Sample Reference				WS403	WS404	WS405	WS409	WS411
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.50	1.50	1.00	2.00
Date Sampled				14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	13	19	25	10
Total mass of sample received	kg	0.001	NONE	0.40	0.40	0.40	0.40	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	-	-	-	7.1
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO4	mg/kg	50	MCERTS	-	-	-	-	190
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-	-	-	-	0.0077
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-	-	-	-	15
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-	-	-	-	7.7
Sulphide	mg/kg	1	MCERTS	-	-	-	-	< 1.0
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	52
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	0.4	-	-	0.3
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.53	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.32	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.40	< 0.05	2.8	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.68	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.46	< 0.05	3.4	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.52	< 0.05	3.2	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.32	< 0.05	2.0	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.31	< 0.05	1.7	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.36	< 0.05	2.0	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.19	< 0.05	0.82	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.32	< 0.05	1.7	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.84	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.25	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.1	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.88	< 0.80	21.2	< 0.80	< 0.80

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740413	1740414	1740415	1740416	1740417
Sample Reference				WS403	WS404	WS405	WS409	WS411
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.50	1.50	1.00	2.00
Date Sampled				14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	32	19	14	2.0
Barium (aqua regia extractable)	mg/kg	1	MCERTS	120	8.5	65	96	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.52	0.19	0.72	0.82	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	< 0.2	0.8	0.4	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	5.2
Copper (aqua regia extractable)	mg/kg	1	MCERTS	25	4.7	44	25	3.9
Lead (aqua regia extractable)	mg/kg	1	MCERTS	99	7.2	85	41	3.9
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	0.6	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	3.4	13	22	4.3
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	20	18	22	37	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	84	8.6	59	61	10
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH Total C5 - C40	mg/kg	10	MCERTS	-	-	-	-	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740413	1740414	1740415	1740416	1740417
Sample Reference				WS403	WS404	WS405	WS409	WS411
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.50	1.50	1.00	2.00
Date Sampled				14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	12	< 1.0	26	< 1.0	< 1.0
TPH (C21 - C35)	mg/kg	1	MCERTS	25	< 1.0	55	< 1.0	< 1.0
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	39	< 10	83	< 10	< 10
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740413	1740414	1740415	1740416	1740417
Sample Reference				WS403	WS404	WS405	WS409	WS411
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.50	1.50	1.00	2.00
Date Sampled				14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740413	1740414	1740415	1740416	1740417
Sample Reference				WS403	WS404	WS405	WS409	WS411
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.50	1.50	1.00	2.00
Date Sampled				14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740419
Sample Reference				TP417
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				15/01/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.001	NONE	1.0

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-
Asbestos Quantification Total	%	0.001	ISO 17025	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-
Total Cyanide	mg/kg	1	MCERTS	< 1
Total Sulphate as SO4	mg/kg	50	MCERTS	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	-
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	-
Sulphide	mg/kg	1	MCERTS	-
Total Sulphur	mg/kg	50	MCERTS	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740419
Sample Reference				TP417
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				15/01/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16
Barium (aqua regia extractable)	mg/kg	1	MCERTS	19
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.42
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.2
Lead (aqua regia extractable)	mg/kg	1	MCERTS	9.6
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	21
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	28
Monoaromatics & Oxygenates				
Benzene	µg/kg	1	MCERTS	-
Toluene	µg/kg	1	MCERTS	-
Ethylbenzene	µg/kg	1	MCERTS	-
p & m-xylene	µg/kg	1	MCERTS	-
o-xylene	µg/kg	1	MCERTS	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-
Petroleum Hydrocarbons				
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-
TPH Total C5 - C40	mg/kg	10	MCERTS	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740419
Sample Reference				TP417
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				15/01/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10

VOCs

Chloromethane	µg/kg	1	ISO 17025	-
Chloroethane	µg/kg	1	NONE	-
Bromomethane	µg/kg	1	ISO 17025	-
Vinyl Chloride	µg/kg	1	NONE	-
Trichlorofluoromethane	µg/kg	1	NONE	-
1,1-Dichloroethene	µg/kg	1	NONE	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-
Trichloromethane	µg/kg	1	MCERTS	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-
Benzene	µg/kg	1	MCERTS	-
Tetrachloromethane	µg/kg	1	MCERTS	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-
Trichloroethene	µg/kg	1	MCERTS	-
Dibromomethane	µg/kg	1	MCERTS	-
Bromodichloromethane	µg/kg	1	MCERTS	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-
Toluene	µg/kg	1	MCERTS	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-
Dibromochloromethane	µg/kg	1	ISO 17025	-
Tetrachloroethene	µg/kg	1	NONE	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-
Chlorobenzene	µg/kg	1	MCERTS	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-
Ethylbenzene	µg/kg	1	MCERTS	-
p & m-Xylene	µg/kg	1	MCERTS	-
Styrene	µg/kg	1	MCERTS	-
Tribromomethane	µg/kg	1	NONE	-
o-Xylene	µg/kg	1	MCERTS	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-
Isopropylbenzene	µg/kg	1	MCERTS	-
Bromobenzene	µg/kg	1	MCERTS	-
n-Propylbenzene	µg/kg	1	ISO 17025	-
2-Chlorotoluene	µg/kg	1	MCERTS	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740419
Sample Reference				TP417
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				15/01/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
4-Chlorotoluene	µg/kg	1	MCERTS	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-
tert-Butylbenzene	µg/kg	1	MCERTS	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-
sec-Butylbenzene	µg/kg	1	MCERTS	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-
Butylbenzene	µg/kg	1	MCERTS	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-

SVOCs

Aniline	mg/kg	0.1	NONE	-
Phenol	mg/kg	0.2	ISO 17025	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-
2-Methylphenol	mg/kg	0.3	MCERTS	-
Hexachloroethane	mg/kg	0.05	MCERTS	-
Nitrobenzene	mg/kg	0.3	MCERTS	-
4-Methylphenol	mg/kg	0.2	NONE	-
Isophorone	mg/kg	0.2	MCERTS	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-
Naphthalene	mg/kg	0.05	MCERTS	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-
4-Chloroaniline	mg/kg	0.1	NONE	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-
Acenaphthylene	mg/kg	0.05	MCERTS	-
Acenaphthene	mg/kg	0.05	MCERTS	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-
Dibenzofuran	mg/kg	0.2	MCERTS	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-
Fluorene	mg/kg	0.05	MCERTS	-
Azobenzene	mg/kg	0.3	MCERTS	-

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E
Your Order No: 14 554 SE

Lab Sample Number				1740419
Sample Reference				TP417
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				15/01/2021
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-
Phenanthrene	mg/kg	0.05	MCERTS	-
Anthracene	mg/kg	0.05	MCERTS	-
Carbazole	mg/kg	0.3	MCERTS	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-
Anthraquinone	mg/kg	0.3	MCERTS	-
Fluoranthene	mg/kg	0.05	MCERTS	-
Pyrene	mg/kg	0.05	MCERTS	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-
Chrysene	mg/kg	0.05	MCERTS	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 21-51712
Project / Site name: Donn Street
Your Order No: 14 554 SE

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
1740405	TP101	0.50	100	Loose Fibres & Loose Fibrous Debris	**Chrysotile & Amosite & Crocidolite**	0.039	**0.039**
1740406	TP107	0.60	100	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**
1740408	TP109	0.50	55	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
1740409	TP109	2.20	112	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
1740411	WS102	1.20	107	Loose Fibres	**Chrysotile**	0.001	**0.001**
1740412	WS107	1.50	101	Loose Fibres	**Chrysotile & Amosite**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E

Your Order No: 14 554 SE

Lab Sample Number				1740420
Sample Reference				TP408
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				13/01/2021
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH	pH Units	N/A	ISO 17025	7.6
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0
Total Phenols				
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	2.0
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	2.9
Lead (dissolved)	µg/l	1	ISO 17025	1.4
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.1
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.3
Monoaromatics & Oxygenates				
Benzene	µg/l	1	ISO 17025	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10

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Analytical Report Number: 21-51712
Project / Site name: Don Street - Parcel D&E

Your Order No: 14 554 SE

Lab Sample Number				1740420
Sample Reference				TP408
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				13/01/2021
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Petroleum Hydrocarbons				
TPH1 (C10 - C40)	µg/l	10	NONE	260
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	72
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	190
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	260
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-51712
Project / Site name: Don Street - Parcel D&E

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1740403	TP427	None Supplied	0.3	Brown loam and clay with gravel.
1740404	TP404	None Supplied	0.5	Brown loam and sand with gravel.
1740405	TP401	None Supplied	0.5	Brown clay and sand with gravel.
1740406	TP407	None Supplied	0.6	Black loam and clay with gravel and vegetation.
1740407	TP407	None Supplied	1.7	Brown loam and clay with gravel and vegetation.
1740408	TP409	None Supplied	0.5	Brown loam and clay with gravel and vegetation.
1740409	TP409	None Supplied	2.2	Brown loam and clay with gravel and vegetation.
1740410	WS401	None Supplied	1.2	Brown loam and clay with gravel.
1740411	WS402	None Supplied	1.2	Brown loam and clay with gravel and vegetation.
1740412	WS407	None Supplied	1.5	Brown loam and clay with gravel and vegetation.
1740413	WS403	None Supplied	1	Brown loam and clay with gravel.
1740414	WS404	None Supplied	0.5	Light brown sand.
1740415	WS405	None Supplied	1.5	Brown loam and sand with vegetation.
1740416	WS409	None Supplied	1	Brown loam and clay with gravel.
1740417	WS411	None Supplied	2	Light grey sand with gravel.
1740419	TP417	None Supplied	0.8	Brown sandy clay with gravel and vegetation.

Analytical Report Number : 21-51712
Project / Site name: Don Street - Parcel D&E

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate	Determination of pH in leachate by electrometric measurement.	In house method.	L005-PL	W	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

Analytical Report Number : 21-51712
Project / Site name: Don Street - Parcel D&E

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 21-51712
Project / Site name: Don Street - Parcel D&E

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report

Analytical Report Number : 21-51712
Project / Site name: Don Street - Parcel D&E

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP427	None Supplied	S	1740403	a	None Supplied	None Supplied	None Supplied

Key: **a** - No sampling date **b** - Incorrect container
c - Holding time **d** - Headspace **e** - Temperature

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Analytical Report Number : 21-52794

Replaces Analytical Report Number: 21-52794, issue no. 1
Client references/information amended.

Project / Site name:	Don Street - Parcel D&E	**Samples received on:**	22/01/2021
Your job number:		**Samples instructed on/ Analysis started on:**	22/01/2021
Your order number:		**Analysis completed by:**	29/01/2021
Report Issue Number:	2	**Report issued on:**	06/05/2021
Samples Analysed:	3 water samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-52794
Project / Site name: Don Street - Parcel D&E

Lab Sample Number				1746820	1746821	1746822
Sample Reference				Upstream	Downstream	WS409
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				22/01/2021	22/01/2021	22/01/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
General Inorganics						
pH	pH Units	N/A	ISO 17025	7.8	7.9	7.1
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	7.0	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	1.87	6.11	3.41
Total Phenols						
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	1.2	4.7
Heavy Metals / Metalloids						
Calcium (dissolved)	mg/l	0.012	ISO 17025	81	64	8.9
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.70	3.54	0.38
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.04	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.3	1.2	0.7
Copper (dissolved)	µg/l	0.5	ISO 17025	3.9	7.0	4.0
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	0.8	2.8
Manganese (dissolved)	µg/l	0.05	ISO 17025	620	27	2.5
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	0.9	2.6	1.0
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	1.0	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	6.8	20	12
Monoaromatics & Oxygenates						
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 21-52794
Project / Site name: Don Street - Parcel D&E

Lab Sample Number				1746820	1746821	1746822
Sample Reference				Upstream	Downstream	WS409
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				22/01/2021	22/01/2021	22/01/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Petroleum Hydrocarbons						
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10
VOCs						
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 21-52794
Project / Site name: Don Street - Parcel D&E

Lab Sample Number				1746820	1746821	1746822
Sample Reference				Upstream	Downstream	WS409
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				22/01/2021	22/01/2021	22/01/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05

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Analytical Report Number: 21-52794
Project / Site name: Don Street - Parcel D&E

Lab Sample Number				1746820	1746821	1746822
Sample Reference				Upstream	Downstream	WS409
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				22/01/2021	22/01/2021	22/01/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-52794
Project / Site name: Don Street - Parcel D&E

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 21-53950

Replaces Analytical Report Number: 21-53950, issue no. 1
Client references/information amended.

Project / Site name:	Don Street - Parcel A	**Samples received on:**	28/01/2021
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	29/01/2021
Your order number:	14544-EF-I	**Analysis completed by:**	10/02/2021
Report Issue Number:	2	**Report issued on:**	06/05/2021
Samples Analysed:	1 leachate sample - 5 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-53950
Project / Site name: Don Street - Parcel A
Your Order No: 14544-EF-I

Lab Sample Number				1753346	1753347	1753348	1753349	1753350
Sample Reference				TP201	TP201	TP204	TP207	TP207
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	1.80	0.80	1.00	2.70
Date Sampled				27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	13	21	35	23
Total mass of sample received	kg	0.001	NONE	1.0	0.50	1.0	0.90	0.50
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	Not-detected	-

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	-	6.3	-	-
pH - Automated	pH Units	N/A	MCERTS	9.6	7.8	-	7.7	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	2	< 1	< 1
Total Sulphate as SO4	mg/kg	50	MCERTS	1600	140	U/S*	710	160
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.12	0.0090	U/S*	0.013	0.012
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	250	18	U/S*	26	25
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	123	9.0	U/S*	13.1	12.4
Sulphide	mg/kg	1	MCERTS	42	< 1.0	3.1	3.1	46
Total Sulphur	mg/kg	50	MCERTS	820	65	U/S*	1400	710

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	1.2	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	5.0	0.31	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	23	0.32	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	10	0.24	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.59	< 0.05	25	2.0	0.44
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	5.7	0.38	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.67	< 0.05	24	4.2	0.39
Pyrene	mg/kg	0.05	MCERTS	0.70	< 0.05	26	4.1	0.40
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.41	< 0.05	< 0.05	2.7	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.33	< 0.05	< 0.05	2.1	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.24	< 0.05	< 0.05	2.2	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.20	< 0.05	< 0.05	1.6	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.26	< 0.05	< 0.05	2.0	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.1	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.29	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.3	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	3.40	< 0.80	119	24.7	1.23

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Analytical Report Number: 21-53950
Project / Site name: Don Street - Parcel A
Your Order No: 14544-EF-I

Lab Sample Number				1753346	1753347	1753348	1753349	1753350
Sample Reference				TP201	TP201	TP204	TP207	TP207
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	1.80	0.80	1.00	2.70
Date Sampled				27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	9.8	U/S*	28	8.0
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	U/S*	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	7.4	U/S*	18	6.9
Copper (aqua regia extractable)	mg/kg	1	MCERTS	49	11	U/S*	68	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	280	10	U/S*	130	20
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	U/S*	0.5	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	13	U/S*	30	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	U/S*	1.2	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	96	28	U/S*	130	30
Petroleum Hydrocarbons								
TPH (C5 - C6)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	2.6	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	970	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	< 4.0	< 4.0	9100	4.2	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	< 1.0	11	19000	19	< 1.0
TPH (C21 - C35)	mg/kg	1	MCERTS	< 1.0	13	46000	45	< 1.0
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	11000	< 10	< 10
TPH Total C5 - C40	mg/kg	10	MCERTS	< 10	26	88000	69	< 10
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Chloroethane	µg/kg	1	NONE	-	-	< 1.0	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0	-	-
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0	-	-

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Analytical Report Number: 21-53950
Project / Site name: Don Street - Parcel A
Your Order No: 14544-EF-I

Lab Sample Number				1753346	1753347	1753348	1753349	1753350
Sample Reference				TP201	TP201	TP204	TP207	TP207
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	1.80	0.80	1.00	2.70
Date Sampled				27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	60	-	-
Styrene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	230	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	5.0	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-

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Analytical Report Number: 21-53950
Project / Site name: Don Street - Parcel A
Your Order No: 14544-EF-I

Lab Sample Number				1753346	1753347	1753348	1753349	1753350
Sample Reference				TP201	TP201	TP204	TP207	TP207
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	1.80	0.80	1.00	2.70
Date Sampled				27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	7.4	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	23	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	5.1	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	10	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	25	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	5.7	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	24	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	26	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample
*Analysis could not be completed due to sample matrix.

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Analytical Report Number: 21-53950
Project / Site name: Don Street - Parcel A

Your Order No: 14544-EF-I

Lab Sample Number				1753351
Sample Reference				TP204
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				27/01/2021
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH	pH Units	N/A	ISO 17025	7.7
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0
Total Phenols				
Total Phenols (monohydric)	µg/l	1	ISO 17025	9.9
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.5
Copper (dissolved)	µg/l	0.7	ISO 17025	4.3
Lead (dissolved)	µg/l	1	ISO 17025	2.2
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.3
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.2

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Analytical Report Number: 21-53950
Project / Site name: Don Street - Parcel A

Your Order No: 14544-EF-I

Lab Sample Number				1753351
Sample Reference				TP204
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				27/01/2021
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Monoaromatics & Oxygenates				
Benzene	µg/l	1	ISO 17025	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10
Petroleum Hydrocarbons				
TPH1 (C10 - C40)	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-53950
Project / Site name: Don Street - Parcel A

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1753346	TP201	None Supplied	0.8	Brown loam and sand with gravel.
1753347	TP201	None Supplied	1.8	Brown loam and sand with gravel.
1753348	TP204	None Supplied	0.8	Brown loam and sand with tar.
1753349	TP207	None Supplied	1	Brown loam and clay.
1753350	TP207	None Supplied	2.7	Light brown sand.

Analytical Report Number : 21-53950
Project / Site name: Don Street - Parcel A

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate	Determination of pH in leachate by electrometric measurement.	In house method.	L005-PL	W	ISO 17025
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

Analytical Report Number : 21-53950
Project / Site name: Don Street - Parcel A

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 21-55131

Replaces Analytical Report Number: 21-55131, issue no. 1
Client references/information amended.

Project / Site name:	Don Street - Parcel D&E	**Samples received on:**	04/02/2021
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	04/02/2021
Your order number:	14-SS4-SE-M	**Analysis completed by:**	11/02/2021
Report Issue Number:	2	**Report issued on:**	06/05/2021
Samples Analysed:	2 water samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-55131
Project / Site name: Don Street - Parcel D&E

Your Order No: 14-SS4-SE-M

Lab Sample Number				1760762	1760763
Sample Reference				WS401	WS402
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				03/02/2021	03/02/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH	pH Units	N/A	ISO 17025	8.2	8.2
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	21	17
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	19.2	8.24
Total Phenols					
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0
Heavy Metals / Metalloids					
Calcium (dissolved)	mg/l	0.012	ISO 17025	600	130
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	11.6	14.9
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.18	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.3	4.3
Copper (dissolved)	µg/l	0.5	ISO 17025	13	1.2
Lead (dissolved)	µg/l	0.2	ISO 17025	0.4	0.6
Manganese (dissolved)	µg/l	0.05	ISO 17025	1800	2300
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	28	4.0
Selenium (dissolved)	µg/l	0.6	ISO 17025	16	1.1
Zinc (dissolved)	µg/l	0.5	ISO 17025	250	5.7
Monoaromatics & Oxygenates					
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0

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Analytical Report Number: 21-55131
Project / Site name: Don Street - Parcel D&E

Your Order No: 14-SS4-SE-M

Lab Sample Number				1760762	1760763
Sample Reference				WS401	WS402
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				03/02/2021	03/02/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Petroleum Hydrocarbons					
TPH1 (C10 - C40)	µg/l	10	NONE	280	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	35	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	130	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	110	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	280	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10
VOCs					
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0

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Analytical Report Number: 21-55131
Project / Site name: Don Street - Parcel D&E

Your Order No: 14-SS4-SE-M

Lab Sample Number				1760762	1760763
Sample Reference				WS401	WS402
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				03/02/2021	03/02/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05

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Analytical Report Number: 21-55131
Project / Site name: Don Street - Parcel D&E

Your Order No: 14-SS4-SE-M

Lab Sample Number				1760762	1760763
Sample Reference				WS401	WS402
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				03/02/2021	03/02/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01

3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-55131
Project / Site name: Don Street - Parcel D&E

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 22-84291

Project / Site name:	Donn Street	**Samples received on:**	14/09/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	14/09/2022
Your order number:	002906	**Analysis completed by:**	22/09/2022
Report Issue Number:	1	**Report issued on:**	22/09/2022
Samples Analysed:	16 water samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.8	7.9	7.9	7.9	7.9
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	2	2.2
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	2.14	2.59	1.97	3.36	3.37
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	3.2	3	< 1.0	< 1.0
Heavy Metals / Metalloids								
Calcium (dissolved)	mg/l	0.012	ISO 17025	89	84	86	81	80
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.8	0.66	0.62	2.94	3.01
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	0.02	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	3.5	1.6	3.2	4.9	3.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	40	0.45	22	130	98
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	1.4	1.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.7	< 0.5	2.3	6	3.3
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40) $_{EH\_2D\_TOTAL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Organochlorine Pesticides (OCP)								
Aldrin	µg/l	0.03	NONE	-	-	-	-	-
BHC-alpha (benzene hexachloride)	µg/l	0.03	NONE	-	-	-	-	-
BHC-beta	µg/l	0.03	NONE	-	-	-	-	-
BHC-delta	µg/l	0.03	NONE	-	-	-	-	-
BHC-gamma (Lindane, gamma HCH)	µg/l	0.03	NONE	-	-	-	-	-
Chlordane-cis	µg/l	0.03	NONE	-	-	-	-	-
Chlordane-trans	µg/l	0.03	NONE	-	-	-	-	-
Chlorothalonil	µg/l	0.03	NONE	-	-	-	-	-
DDD-o,p'	µg/l	0.03	NONE	-	-	-	-	-
DDD-p,p'	µg/l	0.03	NONE	-	-	-	-	-
DDE-o, p'	µg/l	0.03	NONE	-	-	-	-	-
DDE-p,p'	µg/l	0.03	NONE	-	-	-	-	-
DDT-o,p'	µg/l	0.03	NONE	-	-	-	-	-
DDT-p,p'	µg/l	0.03	NONE	-	-	-	-	-
Dichlorobenzonitrile, 2,6-	µg/l	0.03	NONE	-	-	-	-	-
Dieldrin	µg/l	0.03	NONE	-	-	-	-	-
Endosulfan I (alpha isomer)	µg/l	0.03	NONE	-	-	-	-	-
Endosulfan II (beta isomer)	µg/l	0.03	NONE	-	-	-	-	-
Endosulfan sulfate	µg/l	0.03	NONE	-	-	-	-	-
Endrin	µg/l	0.03	NONE	-	-	-	-	-
Endrin aldehyde	µg/l	0.03	NONE	-	-	-	-	-
Endrin ketone	µg/l	0.03	NONE	-	-	-	-	-
Heptachlor	µg/l	0.03	NONE	-	-	-	-	-
Heptachlor exo-epoxide	µg/l	0.03	NONE	-	-	-	-	-
Hexachlorobenzene	µg/l	0.03	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/l	0.03	NONE	-	-	-	-	-
Isodrin	µg/l	0.03	NONE	-	-	-	-	-
Methoxychlor, p,p'-	µg/l	0.03	NONE	-	-	-	-	-
Pentachlorobenzene	µg/l	0.03	NONE	-	-	-	-	-
Tecnazene	µg/l	0.03	NONE	-	-	-	-	-
Tetrachlorobenzene, 1,2,4,5-	µg/l	0.03	NONE	-	-	-	-	-
Trichlorobenzene, 1,2,3-	µg/l	0.03	NONE	-	-	-	-	-
Trichlorobenzene, 1,3,5-	µg/l	0.03	NONE	-	-	-	-	-
Trifluralin	µg/l	0.03	NONE	-	-	-	-	-
Organophosphorus Pesticides (OPP)								
Azinphos-ethyl	µg/l	0.03	NONE	-	-	-	-	-
Azinphos-methyl	µg/l	0.03	NONE	-	-	-	-	-
Carbophenothion	µg/l	0.03	NONE	-	-	-	-	-
Chlorfenvinphos (mixture of z and e isomers)	µg/l	0.03	NONE	-	-	-	-	-

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Chlorpyrifos	µg/l	0.03	NONE	-	-	-	-	-
Demeton-O	µg/l	0.03	NONE	-	-	-	-	-
Demeton-S	µg/l	0.03	NONE	-	-	-	-	-
Diazinon	µg/l	0.03	NONE	-	-	-	-	-
Dichlorvos	µg/l	0.03	NONE	-	-	-	-	-
Dimethoate	µg/l	0.03	NONE	-	-	-	-	-
Dimethylvinphos	µg/l	0.03	NONE	-	-	-	-	-
Ethion	µg/l	0.03	NONE	-	-	-	-	-
Etrimfos	µg/l	0.03	NONE	-	-	-	-	-
Fenitrothion	µg/l	0.03	NONE	-	-	-	-	-
Fenthion	µg/l	0.03	NONE	-	-	-	-	-
Malathion	µg/l	0.03	NONE	-	-	-	-	-
Methacrifos	µg/l	0.03	NONE	-	-	-	-	-
Mevinphos , E-	µg/l	0.03	NONE	-	-	-	-	-
Mevinphos, Z-	µg/l	0.03	NONE	-	-	-	-	-
Parathion	µg/l	0.03	NONE	-	-	-	-	-
Parathion-methyl	µg/l	0.03	NONE	-	-	-	-	-
Phorate	µg/l	0.03	NONE	-	-	-	-	-
Phosalone	µg/l	0.03	NONE	-	-	-	-	-
Phosphamidon I	µg/l	0.03	NONE	-	-	-	-	-
Pirimiphos-ethyl	µg/l	0.03	NONE	-	-	-	-	-
Pirimiphos-methyl	µg/l	0.03	NONE	-	-	-	-	-
Propetamphos	µg/l	0.03	NONE	-	-	-	-	-
Triazophos	µg/l	0.03	NONE	-	-	-	-	-
Organonitrogen Pesticides (ONP)								
Pendimethalin	µg/l	0.03	NONE	-	-	-	-	-
Propyzamide	µg/l	0.03	NONE	-	-	-	-	-
Triadimefon	µg/l	0.03	NONE	-	-	-	-	-
Pyrethroids								
Cyfluthrin	µg/l	0.1	NONE	-	-	-	-	-
Cypermethrin	ng/l	10	NONE	-	-	-	-	-
Deltramethrin	µg/l	0.1	NONE	-	-	-	-	-
Flumethrin	µg/l	0.1	NONE	-	-	-	-	-
cis-Permethrin	µg/l	0.01	NONE	-	-	-	-	-
trans-Permethrin	µg/l	0.01	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	8.1	7.4	7.5	7.8	7.3
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	3.4	1.8	4.2	3.6	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	2.28	2.89	3.46	3.53	1.97
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Heavy Metals / Metalloids								
Calcium (dissolved)	mg/l	0.012	ISO 17025	55	83	100	89	88
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.6	1.25	0.92	3.69	12
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.02	< 0.02	0.04	0.02	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	3.6	2.7	3.4	2.7	1.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	0.68	630	300	58	880
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.8	0.8	1.4	1	< 0.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	< 0.6	2.1	0.6	0.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.8	2.3	22	2.9	< 0.5
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40) $_{EH\_2D\_TOTAL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Organochlorine Pesticides (OCP)								
Aldrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
BHC-alpha (benzene hexachloride)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
BHC-beta	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
BHC-delta	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
BHC-gamma (Lindane, gamma HCH)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Chlordane-cis	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Chlordane-trans	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Chlorothalonil	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDD-o,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDD-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDE-o, p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDE-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDT-o,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDT-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dichlorobenzonitrile, 2,6-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dieldrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endosulfan I (alpha isomer)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endosulfan II (beta isomer)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endosulfan sulfate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endrin aldehyde	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endrin ketone	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Heptachlor	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Heptachlor exo-epoxide	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Hexachlorobenzene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Hexachlorobutadiene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Isodrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Methoxychlor, p,p'-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Pentachlorobenzene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Tecnazene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Tetrachlorobenzene, 1,2,4,5-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Trichlorobenzene, 1,2,3-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Trichlorobenzene, 1,3,5-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Trifluralin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Organophosphorus Pesticides (OPP)								
Azinphos-ethyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Azinphos-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Carbophenothion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Chlorfenvinphos (mixture of z and e isomers)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Chlorpyrifos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Demeton-O	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Demeton-S	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Diazinon	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dichlorvos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dimethoate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dimethylvinphos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Ethion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Etrimfos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Fenitrothion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Fenthion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Malathion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Methacrifos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Mevinphos , E-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Mevinphos, Z-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Parathion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Parathion-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Phorate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Phosalone	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Phosphamidon I	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Pirimiphos-ethyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Pirimiphos-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Propetamphos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Triazophos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Organonitrogen Pesticides (ONP)								
Pendimethalin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Propyzamide	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Triadimefon	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Pyrethroids								
Cyfluthrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
Cypermethrin	ng/l	10	NONE	-	< 10	-	< 10	< 10
Deltramethrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
Flumethrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
cis-Permethrin	µg/l	0.01	NONE	-	< 0.01	-	< 0.01	< 0.01
trans-Permethrin	µg/l	0.01	NONE	-	< 0.01	-	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.3	7.8	7.8	7.8	7.6
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	1.3	1.1	1.1	1.3	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.62	3.25	3.56	3.21	6.7
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Heavy Metals / Metalloids								
Calcium (dissolved)	mg/l	0.012	ISO 17025	93	86	85	87	33
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.25	3.2	3.15	3.51	1.18
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.04	0.09	0.05	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	< 0.5	2.7	3.1	3.6	4.9
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	210	70	39	35	15
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	< 0.5	0.9	1.2	1.7	1.7
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.6	< 0.6	0.7	0.7	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	< 0.5	3.7	10	5.2	2.9
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40) $_{EH\_2D\_TOTAL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Organochlorine Pesticides (OCP)								
Aldrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
BHC-alpha (benzene hexachloride)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
BHC-beta	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
BHC-delta	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
BHC-gamma (Lindane, gamma HCH)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Chlordane-cis	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Chlordane-trans	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Chlorothalonil	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDD-o,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDD-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDE-o, p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDE-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDT-o,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDT-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dichlorobenzonitrile, 2,6-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dieldrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endosulfan I (alpha isomer)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endosulfan II (beta isomer)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endosulfan sulfate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endrin aldehyde	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endrin ketone	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Heptachlor	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Heptachlor exo-epoxide	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Hexachlorobenzene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Hexachlorobutadiene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Isodrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Methoxychlor, p,p'-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Pentachlorobenzene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Tecnazene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Tetrachlorobenzene, 1,2,4,5-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Trichlorobenzene, 1,2,3-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Trichlorobenzene, 1,3,5-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Trifluralin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Organophosphorus Pesticides (OPP)								
Azinphos-ethyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Azinphos-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Carbophenothion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Chlorfenvinphos (mixture of z and e isomers)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Chlorpyrifos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Demeton-O	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Demeton-S	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Diazinon	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dichlorvos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dimethoate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dimethylvinphos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Ethion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Etrimfos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Fenitrothion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Fenthion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Malathion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Methacrifos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Mevinphos , E-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Mevinphos, Z-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Parathion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Parathion-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Phorate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Phosalone	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Phosphamidon I	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Pirimiphos-ethyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Pirimiphos-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Propetamphos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Triazophos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Organonitrogen Pesticides (ONP)								
Pendimethalin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Propyzamide	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Triadimefon	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Pyrethroids								
Cyfluthrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	-
Cypermethrin	ng/l	10	NONE	-	< 10	-	< 10	-
Deltramethrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	-
Flumethrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	-
cis-Permethrin	µg/l	0.01	NONE	-	< 0.01	-	< 0.01	-
trans-Permethrin	µg/l	0.01	NONE	-	< 0.01	-	< 0.01	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH	pH Units	N/A	ISO 17025	7.5
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	4.89
Total Phenols				
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0
Heavy Metals / Metalloids				
Calcium (dissolved)	mg/l	0.012	ISO 17025	27
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.01
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	4.8
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1.7
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.1
Monoaromatics & Oxygenates				
Benzene	µg/l	1	ISO 17025	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0
Petroleum Hydrocarbons				
TPH1 (C10 - C40) $_{EH\_2D\_TOTAL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
VOCs				
Chloromethane	µg/l	1	ISO 17025	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Butylbenzene	µg/l	1	ISO 17025	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10

Organochlorine Pesticides (OCP)

Aldrin	µg/l	0.03	NONE	-
BHC-alpha (benzene hexachloride)	µg/l	0.03	NONE	-
BHC-beta	µg/l	0.03	NONE	-
BHC-delta	µg/l	0.03	NONE	-
BHC-gamma (Lindane, gamma HCH)	µg/l	0.03	NONE	-
Chlordane-cis	µg/l	0.03	NONE	-
Chlordane-trans	µg/l	0.03	NONE	-
Chlorothalonil	µg/l	0.03	NONE	-
DDD-o,p'	µg/l	0.03	NONE	-
DDD-p,p'	µg/l	0.03	NONE	-
DDE-o, p'	µg/l	0.03	NONE	-
DDE-p,p'	µg/l	0.03	NONE	-
DDT-o,p'	µg/l	0.03	NONE	-
DDT-p,p'	µg/l	0.03	NONE	-
Dichlorobenzonitrile, 2,6-	µg/l	0.03	NONE	-
Dieldrin	µg/l	0.03	NONE	-
Endosulfan I (alpha isomer)	µg/l	0.03	NONE	-
Endosulfan II (beta isomer)	µg/l	0.03	NONE	-
Endosulfan sulfate	µg/l	0.03	NONE	-
Endrin	µg/l	0.03	NONE	-
Endrin aldehyde	µg/l	0.03	NONE	-
Endrin ketone	µg/l	0.03	NONE	-
Heptachlor	µg/l	0.03	NONE	-
Heptachlor exo-epoxide	µg/l	0.03	NONE	-
Hexachlorobenzene	µg/l	0.03	NONE	-
Hexachlorobutadiene	µg/l	0.03	NONE	-
Isodrin	µg/l	0.03	NONE	-
Methoxychlor, p,p'-	µg/l	0.03	NONE	-
Pentachlorobenzene	µg/l	0.03	NONE	-
Tecnazene	µg/l	0.03	NONE	-
Tetrachlorobenzene, 1,2,4,5-	µg/l	0.03	NONE	-
Trichlorobenzene, 1,2,3-	µg/l	0.03	NONE	-
Trichlorobenzene, 1,3,5-	µg/l	0.03	NONE	-
Trifluralin	µg/l	0.03	NONE	-

Organophosphorus Pesticides (OPP)

Azinphos-ethyl	µg/l	0.03	NONE	-
Azinphos-methyl	µg/l	0.03	NONE	-
Carbophenothion	µg/l	0.03	NONE	-
Chlorfenvinphos (mixture of z and e isomers)	µg/l	0.03	NONE	-

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Chlorpyrifos	µg/l	0.03	NONE	-
Demeton-O	µg/l	0.03	NONE	-
Demeton-S	µg/l	0.03	NONE	-
Diazinon	µg/l	0.03	NONE	-
Dichlorvos	µg/l	0.03	NONE	-
Dimethoate	µg/l	0.03	NONE	-
Dimethylvinphos	µg/l	0.03	NONE	-
Ethion	µg/l	0.03	NONE	-
Etrimfos	µg/l	0.03	NONE	-
Fenitrothion	µg/l	0.03	NONE	-
Fenthion	µg/l	0.03	NONE	-
Malathion	µg/l	0.03	NONE	-
Methacrifos	µg/l	0.03	NONE	-
Mevinphos , E-	µg/l	0.03	NONE	-
Mevinphos, Z-	µg/l	0.03	NONE	-
Parathion	µg/l	0.03	NONE	-
Parathion-methyl	µg/l	0.03	NONE	-
Phorate	µg/l	0.03	NONE	-
Phosalone	µg/l	0.03	NONE	-
Phosphamidon I	µg/l	0.03	NONE	-
Pirimiphos-ethyl	µg/l	0.03	NONE	-
Pirimiphos-methyl	µg/l	0.03	NONE	-
Propetamphos	µg/l	0.03	NONE	-
Triazophos	µg/l	0.03	NONE	-
Organonitrogen Pesticides (ONP)				
Pendimethalin	µg/l	0.03	NONE	-
Propyzamide	µg/l	0.03	NONE	-
Triadimefon	µg/l	0.03	NONE	-
Pyrethroids				
Cyfluthrin	µg/l	0.1	NONE	-
Cypermethrin	ng/l	10	NONE	-
Deltramethrin	µg/l	0.1	NONE	-
Flumethrin	µg/l	0.1	NONE	-
cis-Permethrin	µg/l	0.01	NONE	-
trans-Permethrin	µg/l	0.01	NONE	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-84291
Project / Site name: Donn Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Organochlorine Pesticides in water by GC MS/MS	Detemination of Pesticides in water by GC MS/MS	Organochlorine Pesticides in water by GC MS/MS	L056B-PL	W	NONE
Organophosphorus Pesticides in water by GC MS/MS	Detemination of Pesticides in water by GC MS/MS	Organophosphorus Pesticides in water by GC MS/MS	L056B-PL	W	NONE
Organonitrogen Pesticides in water by GC MS/MS	Detemination of Pesticides in water by GC MS/MS	Organonitrogen Pesticides in water by GC MS/MS	L056B-PL	W	NONE
TO - Pyrethroids by GC-MS	Determination of synthetic pyrethroids in water by GC-MS	In-house method		W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025

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Analytical Report Number : 22-84291
Project / Site name: Donn Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 22-84291
Project / Site name: Donn Street

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
Area A - A	None Supplied	W	2425512	a	None Supplied	None Supplied	None Supplied
Area A - B	None Supplied	W	2425513	a	None Supplied	None Supplied	None Supplied
Area A - C	None Supplied	W	2425514	a	None Supplied	None Supplied	None Supplied
Area A - D	None Supplied	W	2425515	a	None Supplied	None Supplied	None Supplied
Area A - E	None Supplied	W	2425516	a	None Supplied	None Supplied	None Supplied
Area B - I	None Supplied	W	2425520	a	None Supplied	None Supplied	None Supplied
Area B - J	None Supplied	W	2425521	a	None Supplied	None Supplied	None Supplied
Area B - N	None Supplied	W	2425524	a	None Supplied	None Supplied	None Supplied
Area B - P	None Supplied	W	2425526	a	None Supplied	None Supplied	None Supplied
Area B - Q	None Supplied	W	2425527	a	None Supplied	None Supplied	None Supplied
Area C - F	None Supplied	W	2425517	a	None Supplied	None Supplied	None Supplied
Area C - G	None Supplied	W	2425518	a	None Supplied	None Supplied	None Supplied
Area C - H	None Supplied	W	2425519	a	None Supplied	None Supplied	None Supplied
Area C - L	None Supplied	W	2425523	a	None Supplied	None Supplied	None Supplied
Area E - K	None Supplied	W	2425522	a	None Supplied	None Supplied	None Supplied
Area E - O	None Supplied	W	2425525	a	None Supplied	None Supplied	None Supplied

4041

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Analytical Report Number : 22-86895-2

Replaces Analytical Report Number: 22-86895-1, issue no. 2
Client sampling date amended.

Project / Site name:	Don Street	**Samples received on:**	28/09/2022
Your job number:	14554	**Samples instructed on/ Analysis started on:**	29/09/2022
Your order number:	003058	**Analysis completed by:**	05/10/2022
Report Issue Number:	2	**Report issued on:**	06/10/2022
Samples Analysed:	3 water samples		

Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-86895
Project / Site name: Don Street

Your Order No: 003058

Lab Sample Number				2441018	2441019	2441020
Sample Reference				WS202	WS208	WS311
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				27/09/2022	27/09/2022	27/09/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
General Inorganics						
pH	pH Units	N/A	ISO 17025	7.0	7.0	7.1
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	2.9
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	13.5	5.24	115
Total Phenols						
Total Phenols (monohydric)	µg/l	1	ISO 17025	1.4	1.6	2500
Heavy Metals / Metalloids						
Calcium (dissolved)	mg/l	0.012	ISO 17025	64	160	300
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.54	1.82	21.9
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.06	0.03	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.7
Copper (dissolved)	µg/l	0.5	ISO 17025	0.9	1	1.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.9
Manganese (dissolved)	µg/l	0.05	ISO 17025	650	3400	4200
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	19	1.7	3.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.9	< 0.6	4
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.9	2.8	6.3
Monoaromatics & Oxygenates						
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons						
TPH1 (C10 - C40) EH_2D_TOTAL_#1_#2	µg/l	10	ISO 17025	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10

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Analytical Report Number: 22-86895
Project / Site name: Don Street

Your Order No: 003058

Lab Sample Number				2441018	2441019	2441020
Sample Reference				WS202	WS208	WS311
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				27/09/2022	27/09/2022	27/09/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
VOCs						
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-86895
Project / Site name: Don Street

Your Order No: 003058

Lab Sample Number				2441018	2441019	2441020
Sample Reference				WS202	WS208	WS311
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				27/09/2022	27/09/2022	27/09/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-86895
Project / Site name: Don Street

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Lab Sample Number				2441018	2441019	2441020
Sample Reference				WS202	WS208	WS311
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				27/09/2022	27/09/2022	27/09/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
SVOCs						
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	750
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	1.1
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	620
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

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Analytical Report Number: 22-86895
Project / Site name: Don Street

Your Order No: 003058

Lab Sample Number				2441018	2441019	2441020
Sample Reference				WS202	WS208	WS311
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				27/09/2022	27/09/2022	27/09/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	620

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-86895
Project / Site name: Don Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector

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The results included within the report relate only to the sample(s) submitted for testing.

4041

Analytical Report Number : 22-86895
Project / Site name: Don Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
GC	Gas Chromatography				
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))				
CU	Clean-up - e.g. by Florisil®, silica gel				
1D	GC - Single coil/column gas chromatography				
2D	GC-GC - Double coil/column gas chromatography				
Total	Aliphatics & Aromatics				
AL	Aliphatics				
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
_	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

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UKAS TESTING
4041

Environmental Science

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Analytical Report Number : 22-88110

Project / Site name:	Don Street	**Samples received on:**	04/10/2022
Your job number:	14554	**Samples instructed on/ Analysis started on:**	04/10/2022
Your order number:	003071	**Analysis completed by:**	11/10/2022
Report Issue Number:	1	**Report issued on:**	11/10/2022
Samples Analysed:	4 water samples		

Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-88110
Project / Site name: Don Street

Your Order No: 003071

Lab Sample Number				2448664	2448665	2448666	2448667
Sample Reference				WS801	WS803	WS804	WS805
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				03/10/2022	03/10/2022	03/10/2022	03/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH	pH Units	N/A	ISO 17025	7.3	7.4	7.4	7.9
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	3.9	< 1.0	< 1.0	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	8.37	9.9	10.2	17.2
Total Phenols							
Total Phenols (monohydric)	µg/l	1	ISO 17025	1.6	2	1.6	5.2
Heavy Metals / Metalloids							
Calcium (dissolved)	mg/l	0.012	ISO 17025	130	85	140	62
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.71	2.54	2.04	0.32
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	0.03	0.1	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	2.5	1.1	14	1.3
Lead (dissolved)	µg/l	0.2	ISO 17025	0.4	< 0.2	0.9	0.6
Manganese (dissolved)	µg/l	0.05	ISO 17025	900	430	140	3.9
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.1	1.9	14	< 0.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.2	15	2.5	1.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.2	3.9	140	< 0.5
Monoaromatics & Oxygenates							
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH1 (C10 - C40) $_{EH\_1D\_TOTAL\_MS}$	µg/l	10	ISO 17025	< 10	< 10	< 10	100
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	53
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	22
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	11
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	14
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	100

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Analytical Report Number: 22-88110
Project / Site name: Don Street

Your Order No: 003071

Lab Sample Number				2448664	2448665	2448666	2448667
Sample Reference				WS801	WS803	WS804	WS805
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				03/10/2022	03/10/2022	03/10/2022	03/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
VOCs							
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-88110
Project / Site name: Don Street

Your Order No: 003071

Lab Sample Number				2448664	2448665	2448666	2448667
Sample Reference				WS801	WS803	WS804	WS805
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				03/10/2022	03/10/2022	03/10/2022	03/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
SVOCs							
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	0.73
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	0.77
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	3.8
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	2.2
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.62
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.21
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.6
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.7

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Analytical Report Number: 22-88110
Project / Site name: Don Street

Your Order No: 003071

Lab Sample Number				2448664	2448665	2448666	2448667
Sample Reference				WS801	WS803	WS804	WS805
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				03/10/2022	03/10/2022	03/10/2022	03/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.86
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.92
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.1
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.4
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.91
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.45
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.5
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-88110
Project / Site name: Don Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector

4041

Analytical Report Number : 22-88110
Project / Site name: Don Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
GC	Gas Chromatography				
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))				
CU	Clean-up - e.g. by Florisil®, silica gel				
1D	GC - Single coil/column gas chromatography				
2D	GC-GC - Double coil/column gas chromatography				
Total	Aliphatics & Aromatics				
AL	Aliphatics				
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
_	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

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Analytical Report Number : 22-39017

Project / Site name:	Don-Street	**Samples received on:**	09/02/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	10/02/2022
Your order number:	631	**Analysis completed by:**	17/02/2022
Report Issue Number:	1	**Report issued on:**	17/02/2022
Samples Analysed:	4 leachate samples - 9 soil samples		

Signed: Izabela Wójcik

Izabela Wójcik
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP101	TP101	TP102	TP103	TP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	43
Moisture Content	%	0.01	NONE	14	14	28	16	13
Total mass of sample received	kg	0.001	NONE	0.30	0.30	0.30	0.30	0.30
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	BPA	BPA	BPA	BPA	BPA
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.4	-	8.2	-	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	4.7
Total Sulphate as SO4	mg/kg	50	MCERTS	340	-	460	-	510
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.014	-	0.038	-	0.063
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	28	-	76	-	130
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	14.1	-	38.2	-	63.4
Sulphide	mg/kg	1	MCERTS	1.4	-	56	-	39
Total Sulphur	mg/kg	50	MCERTS	300	-	780	-	610
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.1	-	1.0	-	1.8
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	0.27	-	0.85
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	-	0.62
Acenaphthene	mg/kg	0.05	MCERTS	0.36	-	1.3	-	1.1
Fluorene	mg/kg	0.05	MCERTS	0.41	-	1.0	-	1.3
Phenanthrene	mg/kg	0.05	MCERTS	3.8	-	4.3	-	7.2
Anthracene	mg/kg	0.05	MCERTS	1.9	-	1.3	-	2.3
Fluoranthene	mg/kg	0.05	MCERTS	8.1	-	5.1	-	13
Pyrene	mg/kg	0.05	MCERTS	8.0	-	4.1	-	12
Benzo(a)anthracene	mg/kg	0.05	MCERTS	6.1	-	1.8	-	8.8
Chrysene	mg/kg	0.05	MCERTS	4.2	-	1.5	-	6.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	5.0	-	1.8	-	9.7
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.2	-	0.69	-	4.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5.3	-	1.6	-	9.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.7	-	0.76	-	4.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.74	-	< 0.05	-	1.4
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.3	-	0.93	-	5.6
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	53.0	-	26.5	-	88.5

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP101	TP101	TP102	TP103	TP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	10	8.6	14	46
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	120	-	240	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	0.96	-	1.0	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	0.4	-	0.4	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	-	13	-	54
Copper (aqua regia extractable)	mg/kg	1	MCERTS	78	37	40	60	130
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	57	55	66	280
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9	2.2	0.5	0.8	3.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	23	23	38	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	26	-	29	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	69	49	180	230
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	< 2.0	-	5.8	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	< 8.0	-	11	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	< 8.0	-	59	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	< 10	-	76	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	9.1	-	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	19	-	3.8	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	58	-	27	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	94	-	92	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	180	-	120	-
TPH (C5 - C6) $_{HS\_1D\_TOTAL}$	mg/kg	1	NONE	< 1.0	-	< 1.0	-	< 1.0
TPH (C6 - C8) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	< 0.1
TPH (C8 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	< 0.1
TPH (C10 - C12) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	2	MCERTS	< 2.0	-	< 2.0	-	< 2.0
TPH (C12 - C16) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	4	MCERTS	15	-	24	-	14
TPH (C16 - C21) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	75	-	49	-	49
TPH (C21 - C35) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	200	-	190	-	190
TPH (C35 - C40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	75	-	91	-	85
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	370	-	350	-	340

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP101	TP101	TP102	TP103	TP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chloroethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tribromomethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP101	TP101	TP102	TP103	TP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	1.3	-	0.24	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.9	-	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	-	2.4	-	0.94	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	1.3	-	0.6	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	2.1	-	0.96	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	14	-	9.4	-
Anthracene	mg/kg	0.05	MCERTS	-	3.0	-	2.2	-
Carbazole	mg/kg	0.3	MCERTS	-	0.5	-	0.8	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	-	12	-	9.3	-
Pyrene	mg/kg	0.05	MCERTS	-	13	-	8.1	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP101	TP101	TP102	TP103	TP105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	6.5	-	4.5	-
Chrysene	mg/kg	0.05	MCERTS	-	6.4	-	4.5	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	5.2	-	4.0	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	2.8	-	2.4	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	5.5	-	3.8	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	2.4	-	1.9	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.66	-	0.52	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	3.1	-	2.4	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP106	TP107	TP108	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	47	< 0.1
Moisture Content	%	0.01	NONE	27	15	14	12
Total mass of sample received	kg	0.001	NONE	0.30	0.30	0.30	0.30
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile- Loose Fibres	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	BPA	BPA	BPA	BPA
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	8.2	8.0	8.0	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	22	2.7	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	310	1100	480	340
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.028	0.15	0.086	0.046
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	56	310	170	92
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	27.9	153	86.2	46.2
Sulphide	mg/kg	1	MCERTS	39	6.0	51	13
Total Sulphur	mg/kg	50	MCERTS	340	1800	1200	390
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.2	2.1	2.1	1.3
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.63	0.51	0.57
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.95	1.3	1.8
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.64	0.95	1.5
Phenanthrene	mg/kg	0.05	MCERTS	0.81	5.8	7.6	11
Anthracene	mg/kg	0.05	MCERTS	0.28	1.4	2.1	2.9
Fluoranthene	mg/kg	0.05	MCERTS	3.1	9.4	11	13
Pyrene	mg/kg	0.05	MCERTS	2.9	8.8	9.1	12
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.0	6.0	5.0	6.1
Chrysene	mg/kg	0.05	MCERTS	1.4	4.4	4.6	5.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.2	5.8	4.8	5.9
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.73	2.5	2.4	3.0
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.9	4.9	4.3	5.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.98	2.5	2.3	3.0
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.34	0.73	0.55	0.74
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.2	3.2	2.7	3.6
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	17.9	57.5	58.8	75.7

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP106	TP107	TP108	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	140	24	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	76	25	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	45	330	190	33
Lead (aqua regia extractable)	mg/kg	1	MCERTS	54	420	180	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8	4.5	1.1	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	23	32	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	66	430	150	84
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-
TPH (C5 - C6) $_{HS\_1D\_TOTAL}$	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	4	MCERTS	< 4.0	< 4.0	9.5	16
TPH (C16 - C21) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	24	45	28	53
TPH (C21 - C35) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	180	140	60	94
TPH (C35 - C40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	51	38	12	17
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	250	220	110	180

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP106	TP107	TP108	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP106	TP107	TP108	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP106	TP107	TP108	TP110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-39017
Project / Site name: Don-Street

Your Order No: 631

Lab Sample Number				2169087	2169088	2169089	2169090
Sample Reference				TP102	TP104	TP106	TP109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40	1.20	0.70	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH (automated)	pH Units	N/A	ISO 17025	8.2	8.1	8.0	7.6
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	4.4	4.3	2.5	6.5
Total Phenols							
Total Phenols (monohydric)	µg/l	1	ISO 17025	7.5	7.4	6.7	7.3
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	0.64	0.78	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	2.3	6.0	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	0.87	2.7	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.76	2.2	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	0.24	0.50	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	0.44	0.95	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.30	0.63	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.2	NONE	5.6	14	< 0.2	< 0.2
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	4.7	3.2	< 1.0	4.7
Cadmium (dissolved)	µg/l	0.08	ISO 17025	0.23	< 0.08	0.26	0.25
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.9	1.4	1.7	1.8
Copper (dissolved)	µg/l	0.7	ISO 17025	19	29	13	21
Lead (dissolved)	µg/l	1	ISO 17025	5.4	8.9	4.6	10
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.8	5.0	3.1	3.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	13	11	16	26

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Analytical Report Number: 22-39017
Project / Site name: Don-Street

Your Order No: 631

Lab Sample Number				2169087	2169088	2169089	2169090
Sample Reference				TP102	TP104	TP106	TP109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40	1.20	0.70	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Monoaromatics & Oxygenates							
Benzene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	I/S	< 10	< 10
Petroleum Hydrocarbons							
TPH1 (C10 - C40) $_{EH\_1D\_TOTAL\_\#1\_\#2\_MS}$	µg/l	10	NONE	130	99	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	52	48	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	80	50	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	130	98	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-39017
Project / Site name: Don-Street

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2169078	TP101	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
2169079	TP101	None Supplied	2.3	Brown clay and loam with gravel.
2169080	TP102	None Supplied	1.4	Brown clay and loam with gravel.
2169081	TP103	None Supplied	0.7	Brown loam and clay with gravel and vegetation.
2169082	TP105	None Supplied	1.8	Brown loam and clay with stones and vegetation.
2169083	TP106	None Supplied	0.7	Brown clay and loam with gravel and vegetation.
2169084	TP107	None Supplied	1.4	Brown loam and clay with gravel and vegetation.
2169085	TP108	None Supplied	1.8	Brown loam and clay with gravel and stones.
2169086	TP110	None Supplied	0.9	Brown loam and clay with gravel.

Analytical Report Number : 22-39017
Project / Site name: Don-Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

Analytical Report Number : 22-39017
Project / Site name: Don-Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

Analytical Report Number : 22-39017
Project / Site name: Don-Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 22-39017
Project / Site name: Don-Street

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP101	None Supplied	S	2169078	a	None Supplied	None Supplied	None Supplied
TP101	None Supplied	S	2169079	a	None Supplied	None Supplied	None Supplied
TP102	None Supplied	L	2169087	a	None Supplied	None Supplied	None Supplied
TP102	None Supplied	S	2169080	a	None Supplied	None Supplied	None Supplied
TP103	None Supplied	S	2169081	a	None Supplied	None Supplied	None Supplied
TP104	None Supplied	L	2169088	a	None Supplied	None Supplied	None Supplied
TP105	None Supplied	S	2169082	a	None Supplied	None Supplied	None Supplied
TP106	None Supplied	L	2169089	a	None Supplied	None Supplied	None Supplied
TP106	None Supplied	S	2169083	a	None Supplied	None Supplied	None Supplied
TP107	None Supplied	S	2169084	a	None Supplied	None Supplied	None Supplied
TP108	None Supplied	S	2169085	a	None Supplied	None Supplied	None Supplied
TP109	None Supplied	L	2169090	a	None Supplied	None Supplied	None Supplied
TP110	None Supplied	S	2169086	a	None Supplied	None Supplied	None Supplied

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Analytical Report Number : 22-39017

Replaces Analytical Report Number: 22-39017, issue no. 2
Client references/information amended.

Project / Site name:	Don-Street	**Samples received on:**	09/02/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	10/02/2022
Your order number:	631	**Analysis completed by:**	07/04/2022
Report Issue Number:	3	**Report issued on:**	07/04/2022
Samples Analysed:	4 leachate samples - 9 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP501	TP501	TP502	TP503	TP505
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	43
Moisture Content	%	0.01	NONE	14	14	28	16	13
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	BPA	BPA	BPA	BPA	BPA
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.4	-	8.2	-	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	4.7
Total Sulphate as SO4	mg/kg	50	MCERTS	340	-	460	-	510
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.014	-	0.038	-	0.063
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	28	-	76	-	130
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	14.1	-	38.2	-	63.4
Sulphide	mg/kg	1	MCERTS	1.4	-	56	-	39
Total Sulphur	mg/kg	50	MCERTS	300	-	780	-	610
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.1	-	1	-	1.8
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	0.27	-	0.85
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	-	0.62
Acenaphthene	mg/kg	0.05	MCERTS	0.36	-	1.3	-	1.1
Fluorene	mg/kg	0.05	MCERTS	0.41	-	1	-	1.3
Phenanthrene	mg/kg	0.05	MCERTS	3.8	-	4.3	-	7.2
Anthracene	mg/kg	0.05	MCERTS	1.9	-	1.3	-	2.3
Fluoranthene	mg/kg	0.05	MCERTS	8.1	-	5.1	-	13
Pyrene	mg/kg	0.05	MCERTS	8	-	4.1	-	12
Benzo(a)anthracene	mg/kg	0.05	MCERTS	6.1	-	1.8	-	8.8
Chrysene	mg/kg	0.05	MCERTS	4.2	-	1.5	-	6.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	5	-	1.8	-	9.7
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.2	-	0.69	-	4.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5.3	-	1.6	-	9.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.7	-	0.76	-	4.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.74	-	< 0.05	-	1.4
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.3	-	0.93	-	5.6
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	53	-	26.5	-	88.5

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Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	10	8.6	14	46
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	120	-	240	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	0.96	-	1	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	0.4	-	0.4	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	-	13	-	54
Copper (aqua regia extractable)	mg/kg	1	MCERTS	78	37	40	60	130
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	57	55	66	280
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9	2.2	0.5	0.8	3.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	23	23	38	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	26	-	29	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	69	49	180	230
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-

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Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	< 2.0	-	5.8	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	< 8.0	-	11	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	< 8.0	-	59	-
TPH-CWG - Aliphatic >EC35 - EC40 $_{EH\_CU\_1D\_AL}$	mg/kg	10	NONE	-	< 10	-	23	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	< 10	-	76	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	9.1	-	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	19	-	3.8	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	58	-	27	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	94	-	92	-
TPH-CWG - Aromatic >EC35 - EC40 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	-	27	-	35	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	180	-	120	-
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	-	210	-	260	-
TPH (C5 - C6) $_{HS\_1D\_TOTAL}$	mg/kg	1	NONE	< 1.0	-	< 1.0	-	< 1.0
TPH (C6 - C8) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	< 0.1
TPH (C8 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	< 0.1
TPH (C10 - C12) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	2	MCERTS	< 2.0	-	< 2.0	-	< 2.0
TPH (C12 - C16) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	4	MCERTS	15	-	24	-	14
TPH (C16 - C21) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	75	-	49	-	49
TPH (C21 - C35) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	200	-	190	-	190
TPH (C35 - C40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	75	-	91	-	85
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	370	-	350	-	340
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chloroethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-

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Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tribromomethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	1.3	-	0.24	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-

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Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.9	-	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	-	2.4	-	0.94	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	1.3	-	0.6	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	2.1	-	0.96	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	14	-	9.4	-
Anthracene	mg/kg	0.05	MCERTS	-	3	-	2.2	-
Carbazole	mg/kg	0.3	MCERTS	-	0.5	-	0.8	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	-	12	-	9.3	-
Pyrene	mg/kg	0.05	MCERTS	-	13	-	8.1	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	6.5	-	4.5	-
Chrysene	mg/kg	0.05	MCERTS	-	6.4	-	4.5	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	5.2	-	4	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	2.8	-	2.4	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	5.5	-	3.8	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	2.4	-	1.9	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.66	-	0.52	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	3.1	-	2.4	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	47	< 0.1
Moisture Content	%	0.01	NONE	27	15	14	12
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	< 0.001	-
Asbestos Analyst ID	N/A	N/A	N/A	BPA	BPA	BPA	BPA
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	8.2	8	8	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	22	2.7	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	310	1100	480	340
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.028	0.15	0.086	0.046
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	56	310	170	92
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	27.9	153	86.2	46.2
Sulphide	mg/kg	1	MCERTS	39	6	51	13
Total Sulphur	mg/kg	50	MCERTS	340	1800	1200	390
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.2	2.1	2.1	1.3
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.63	0.51	0.57
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.95	1.3	1.8
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.64	0.95	1.5
Phenanthrene	mg/kg	0.05	MCERTS	0.81	5.8	7.6	11
Anthracene	mg/kg	0.05	MCERTS	0.28	1.4	2.1	2.9
Fluoranthene	mg/kg	0.05	MCERTS	3.1	9.4	11	13
Pyrene	mg/kg	0.05	MCERTS	2.9	8.8	9.1	12
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2	6	5	6.1
Chrysene	mg/kg	0.05	MCERTS	1.4	4.4	4.6	5.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.2	5.8	4.8	5.9
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.73	2.5	2.4	3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.9	4.9	4.3	5.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.98	2.5	2.3	3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.34	0.73	0.55	0.74
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.2	3.2	2.7	3.6
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	17.9	57.5	58.8	75.7

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	140	24	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	76	25	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	45	330	190	33
Lead (aqua regia extractable)	mg/kg	1	MCERTS	54	420	180	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8	4.5	1.1	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	23	32	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	66	430	150	84
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-

Analytical Report Number: 22-39017
Project / Site name: Don-Street
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Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC35 - EC40 $_{EH\_CU\_1D\_AL}$	mg/kg	10	NONE	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC35 - EC40 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	-	-	-	-
TPH (C5 - C6) $_{HS\_1D\_TOTAL}$	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	4	MCERTS	< 4.0	< 4.0	9.5	16
TPH (C16 - C21) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	24	45	28	53
TPH (C21 - C35) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	180	140	60	94
TPH (C35 - C40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	51	38	12	17
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	250	220	110	180
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2169085	TP508	1.80	35	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number: 22-39017
Project / Site name: Don-Street

Your Order No: 631

Lab Sample Number				2169087	2169088	2169089	2169090
Sample Reference				TP502	TP504	TP506	TP509
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40	1.20	0.70	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH (automated)	pH Units	N/A	ISO 17025	8.2	8.1	8	7.6
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	4.4	4.3	2.5	6.5
Total Phenols							
Total Phenols (monohydric)	µg/l	1	ISO 17025	7.5	7.4	6.7	7.3
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	0.64	0.78	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	2.3	6	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	0.87	2.7	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.76	2.2	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	0.24	0.5	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	0.44	0.95	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.3	0.63	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.2	NONE	5.6	14	< 0.2	< 0.2
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	4.7	3.2	< 1.0	4.7
Cadmium (dissolved)	µg/l	0.08	ISO 17025	0.23	< 0.08	0.26	0.25
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.9	1.4	1.7	1.8
Copper (dissolved)	µg/l	0.7	ISO 17025	19	29	13	21
Lead (dissolved)	µg/l	1	ISO 17025	5.4	8.9	4.6	10
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.8	5	3.1	3.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	13	11	16	26
Monoaromatics & Oxygenates							
Benzene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	I/S	< 10	< 10

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Analytical Report Number: 22-39017
Project / Site name: Don-Street

Your Order No: 631

Lab Sample Number				2169087	2169088	2169089	2169090
Sample Reference				TP502	TP504	TP506	TP509
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40	1.20	0.70	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
TPH1 (C10 - C40) EH_1D_TOTAL_#1_#2_MS	µg/l	10	NONE	130	99	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	52	48	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	80	50	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	130	98	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-39017
Project / Site name: Don-Street

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2169078	TP501	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
2169079	TP501	None Supplied	2.3	Brown clay and loam with gravel.
2169080	TP502	None Supplied	1.4	Brown clay and loam with gravel.
2169081	TP503	None Supplied	0.7	Brown loam and clay with gravel and vegetation.
2169082	TP505	None Supplied	1.8	Brown loam and clay with stones and vegetation.
2169083	TP506	None Supplied	0.7	Brown clay and loam with gravel and vegetation.
2169084	TP507	None Supplied	1.4	Brown loam and clay with gravel and vegetation.
2169085	TP508	None Supplied	1.8	Brown loam and clay with gravel and stones.
2169086	TP510	None Supplied	0.9	Brown loam and clay with gravel.

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Analytical Report Number : 22-39017
Project / Site name: Don-Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

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Analytical Report Number : 22-39017
Project / Site name: Don-Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

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Analytical Report Number : 22-39017
Project / Site name: Don-Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Analytical Report Number : 22-39017
Project / Site name: Don-Street

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP501	None Supplied	S	2169078	a	None Supplied	None Supplied	None Supplied
TP501	None Supplied	S	2169079	a	None Supplied	None Supplied	None Supplied
TP502	None Supplied	L	2169087	a	None Supplied	None Supplied	None Supplied
TP502	None Supplied	S	2169080	a	None Supplied	None Supplied	None Supplied
TP503	None Supplied	S	2169081	a	None Supplied	None Supplied	None Supplied
TP504	None Supplied	L	2169088	a	None Supplied	None Supplied	None Supplied
TP505	None Supplied	S	2169082	a	None Supplied	None Supplied	None Supplied
TP506	None Supplied	L	2169089	a	None Supplied	None Supplied	None Supplied
TP506	None Supplied	S	2169083	a	None Supplied	None Supplied	None Supplied
TP507	None Supplied	S	2169084	a	None Supplied	None Supplied	None Supplied
TP508	None Supplied	S	2169085	a	None Supplied	None Supplied	None Supplied
TP509	None Supplied	L	2169090	a	None Supplied	None Supplied	None Supplied
TP510	None Supplied	S	2169086	a	None Supplied	None Supplied	None Supplied

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Analytical Report Number : 22-39017

Replaces Analytical Report Number: 22-39017, issue no. 3
Client sampling date amended.

Project / Site name:	Don-Street	**Samples received on:**	09/02/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	10/02/2022
Your order number:	631	**Analysis completed by:**	21/04/2022
Report Issue Number:	4	**Report issued on:**	21/04/2022
Samples Analysed:	4 leachate samples - 9 soil samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP501	TP501	TP502	TP503	TP505
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	43
Moisture Content	%	0.01	NONE	14	14	28	16	13
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	BPA	BPA	BPA	BPA	BPA
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.4	-	8.2	-	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	4.7
Total Sulphate as SO4	mg/kg	50	MCERTS	340	-	460	-	510
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.014	-	0.038	-	0.063
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	28	-	76	-	130
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	14.1	-	38.2	-	63.4
Sulphide	mg/kg	1	MCERTS	1.4	-	56	-	39
Total Sulphur	mg/kg	50	MCERTS	300	-	780	-	610
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.1	-	1	-	1.8
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	0.27	-	0.85
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	-	0.62
Acenaphthene	mg/kg	0.05	MCERTS	0.36	-	1.3	-	1.1
Fluorene	mg/kg	0.05	MCERTS	0.41	-	1	-	1.3
Phenanthrene	mg/kg	0.05	MCERTS	3.8	-	4.3	-	7.2
Anthracene	mg/kg	0.05	MCERTS	1.9	-	1.3	-	2.3
Fluoranthene	mg/kg	0.05	MCERTS	8.1	-	5.1	-	13
Pyrene	mg/kg	0.05	MCERTS	8	-	4.1	-	12
Benzo(a)anthracene	mg/kg	0.05	MCERTS	6.1	-	1.8	-	8.8
Chrysene	mg/kg	0.05	MCERTS	4.2	-	1.5	-	6.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	5	-	1.8	-	9.7
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.2	-	0.69	-	4.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5.3	-	1.6	-	9.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.7	-	0.76	-	4.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.74	-	< 0.05	-	1.4
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.3	-	0.93	-	5.6
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	53	-	26.5	-	88.5

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP501	TP501	TP502	TP503	TP505
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	10	8.6	14	46
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	120	-	240	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	0.96	-	1	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	0.4	-	0.4	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	-	13	-	54
Copper (aqua regia extractable)	mg/kg	1	MCERTS	78	37	40	60	130
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	57	55	66	280
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9	2.2	0.5	0.8	3.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	23	23	38	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	26	-	29	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	69	49	180	230
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP501	TP501	TP502	TP503	TP505
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	< 2.0	-	5.8	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	< 8.0	-	11	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	< 8.0	-	59	-
TPH-CWG - Aliphatic >EC35 - EC40 $_{EH\_CU\_1D\_AL}$	mg/kg	10	NONE	-	< 10	-	23	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	< 10	-	76	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	9.1	-	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	19	-	3.8	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	58	-	27	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	94	-	92	-
TPH-CWG - Aromatic >EC35 - EC40 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	-	27	-	35	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	180	-	120	-
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	-	210	-	260	-
TPH (C5 - C6) $_{HS\_1D\_TOTAL}$	mg/kg	1	NONE	< 1.0	-	< 1.0	-	< 1.0
TPH (C6 - C8) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	< 0.1
TPH (C8 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	-	< 0.1
TPH (C10 - C12) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	2	MCERTS	< 2.0	-	< 2.0	-	< 2.0
TPH (C12 - C16) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	4	MCERTS	15	-	24	-	14
TPH (C16 - C21) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	75	-	49	-	49
TPH (C21 - C35) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	200	-	190	-	190
TPH (C35 - C40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	75	-	91	-	85
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	370	-	350	-	340
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chloroethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP501	TP501	TP502	TP503	TP505
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tribromomethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	1.3	-	0.24	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169078	2169079	2169080	2169081	2169082
Sample Reference				TP501	TP501	TP502	TP503	TP505
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	2.30	1.40	0.70	1.80
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.9	-	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	-	2.4	-	0.94	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	1.3	-	0.6	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	2.1	-	0.96	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	14	-	9.4	-
Anthracene	mg/kg	0.05	MCERTS	-	3	-	2.2	-
Carbazole	mg/kg	0.3	MCERTS	-	0.5	-	0.8	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	-	12	-	9.3	-
Pyrene	mg/kg	0.05	MCERTS	-	13	-	8.1	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	6.5	-	4.5	-
Chrysene	mg/kg	0.05	MCERTS	-	6.4	-	4.5	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	5.2	-	4	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	2.8	-	2.4	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	5.5	-	3.8	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	2.4	-	1.9	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.66	-	0.52	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	3.1	-	2.4	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	47	< 0.1
Moisture Content	%	0.01	NONE	27	15	14	12
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	< 0.001	-
Asbestos Analyst ID	N/A	N/A	N/A	BPA	BPA	BPA	BPA
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	8.2	8	8	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	22	2.7	< 1.0
Total Sulphate as SO4	mg/kg	50	MCERTS	310	1100	480	340
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.028	0.15	0.086	0.046
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	56	310	170	92
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	27.9	153	86.2	46.2
Sulphide	mg/kg	1	MCERTS	39	6	51	13
Total Sulphur	mg/kg	50	MCERTS	340	1800	1200	390
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.2	2.1	2.1	1.3
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.63	0.51	0.57
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.95	1.3	1.8
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.64	0.95	1.5
Phenanthrene	mg/kg	0.05	MCERTS	0.81	5.8	7.6	11
Anthracene	mg/kg	0.05	MCERTS	0.28	1.4	2.1	2.9
Fluoranthene	mg/kg	0.05	MCERTS	3.1	9.4	11	13
Pyrene	mg/kg	0.05	MCERTS	2.9	8.8	9.1	12
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2	6	5	6.1
Chrysene	mg/kg	0.05	MCERTS	1.4	4.4	4.6	5.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.2	5.8	4.8	5.9
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.73	2.5	2.4	3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.9	4.9	4.3	5.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.98	2.5	2.3	3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.34	0.73	0.55	0.74
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.2	3.2	2.7	3.6
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	17.9	57.5	58.8	75.7

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	140	24	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	76	25	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	45	330	190	33
Lead (aqua regia extractable)	mg/kg	1	MCERTS	54	420	180	110
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8	4.5	1.1	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	23	32	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	66	430	150	84
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-

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Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-
TPH-CWG - Aliphatic >EC35 - EC40 $_{EH\_CU\_1D\_AL}$	mg/kg	10	NONE	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-
TPH-CWG - Aromatic >EC35 - EC40 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	-	-	-	-
TPH (C5 - C6) $_{HS\_1D\_TOTAL}$	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	4	MCERTS	< 4.0	< 4.0	9.5	16
TPH (C16 - C21) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	24	45	28	53
TPH (C21 - C35) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	1	MCERTS	180	140	60	94
TPH (C35 - C40) $_{EH\_CU\_1D\_TOTAL}$	mg/kg	10	MCERTS	51	38	12	17
TPH Total C5 - C40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	MCERTS	250	220	110	180
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Lab Sample Number				2169083	2169084	2169085	2169086
Sample Reference				TP506	TP507	TP508	TP510
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.40	1.80	0.90
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-39017
Project / Site name: Don-Street
Your Order No: 631

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2169085	TP508	1.80	35	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number: 22-39017
Project / Site name: Don-Street

Your Order No: 631

Lab Sample Number				2169087	2169088	2169089	2169090
Sample Reference				TP502	TP504	TP506	TP509
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40	1.20	0.70	1.00
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH (automated)	pH Units	N/A	ISO 17025	8.2	8.1	8	7.6
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	4.4	4.3	2.5	6.5
Total Phenols							
Total Phenols (monohydric)	µg/l	1	ISO 17025	7.5	7.4	6.7	7.3
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	0.64	0.78	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	2.3	6	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	0.87	2.7	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.76	2.2	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	0.24	0.5	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	0.44	0.95	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.3	0.63	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.2	NONE	5.6	14	< 0.2	< 0.2
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	4.7	3.2	< 1.0	4.7
Cadmium (dissolved)	µg/l	0.08	ISO 17025	0.23	< 0.08	0.26	0.25
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.9	1.4	1.7	1.8
Copper (dissolved)	µg/l	0.7	ISO 17025	19	29	13	21
Lead (dissolved)	µg/l	1	ISO 17025	5.4	8.9	4.6	10
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.8	5	3.1	3.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	13	11	16	26
Monoaromatics & Oxygenates							
Benzene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	I/S	< 10	< 10

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Analytical Report Number: 22-39017
Project / Site name: Don-Street

Your Order No: 631

Lab Sample Number				2169087	2169088	2169089	2169090
Sample Reference				TP502	TP504	TP506	TP509
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.40	1.20	0.70	1.00
Date Sampled				08/02/2022	08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Petroleum Hydrocarbons							
TPH1 (C10 - C40) EH_1D_TOTAL_#1_#2_MS	µg/l	10	NONE	130	99	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	I/S	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	52	48	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	80	50	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	130	98	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-39017
Project / Site name: Don-Street

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2169078	TP501	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
2169079	TP501	None Supplied	2.3	Brown clay and loam with gravel.
2169080	TP502	None Supplied	1.4	Brown clay and loam with gravel.
2169081	TP503	None Supplied	0.7	Brown loam and clay with gravel and vegetation.
2169082	TP505	None Supplied	1.8	Brown loam and clay with stones and vegetation.
2169083	TP506	None Supplied	0.7	Brown clay and loam with gravel and vegetation.
2169084	TP507	None Supplied	1.4	Brown loam and clay with gravel and vegetation.
2169085	TP508	None Supplied	1.8	Brown loam and clay with gravel and stones.
2169086	TP510	None Supplied	0.9	Brown loam and clay with gravel.

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Analytical Report Number : 22-39017
Project / Site name: Don-Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

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Analytical Report Number : 22-39017
Project / Site name: Don-Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

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Analytical Report Number : 22-39017
Project / Site name: Don-Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-39659

Project / Site name:	Donn Street A	**Samples received on:**	10/02/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	14/02/2022
Your order number:	646	**Analysis completed by:**	22/02/2022
Report Issue Number:	1	**Report issued on:**	22/02/2022
Samples Analysed:	1 leachate sample - 3 soil samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP119	TP117	TP116
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	21	17
Total mass of sample received	kg	0.001	NONE	0.50	0.50	1.0

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	Amosite	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
Asbestos Analyst ID	N/A	N/A	N/A	MLO	MLO	MLO

General Inorganics

Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.3	< 0.05	0.79
Acenaphthylene	mg/kg	0.05	MCERTS	0.57	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	1.5	0.17	0.90
Fluorene	mg/kg	0.05	MCERTS	1.4	0.28	0.77
Phenanthrene	mg/kg	0.05	MCERTS	12	2.0	6.4
Anthracene	mg/kg	0.05	MCERTS	3.8	0.57	1.9
Fluoranthene	mg/kg	0.05	MCERTS	17	3.2	11
Pyrene	mg/kg	0.05	MCERTS	17	3.3	10
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.1	1.4	6.9
Chrysene	mg/kg	0.05	MCERTS	6.9	1.3	5.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	8.9	1.7	7.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	4.2	0.75	1.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	8.6	1.7	6.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	4.5	0.78	2.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.3	0.26	0.86
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	5.0	0.92	3.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	102	18.2	66.0

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	10	27
Barium (aqua regia extractable)	mg/kg	1	MCERTS	680	260	390
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.6	0.63	1.8
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	1.3	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.3	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	430	60	420
Lead (aqua regia extractable)	mg/kg	1	MCERTS	260	75	290
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.9	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	40	18	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	43	19	40
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	990	200	210

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP119	TP117	TP116
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Petroleum Hydrocarbons						
TPH (C5 - C6) HS_1D_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	11	< 4.0	5.3
TPH (C16 - C21) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	62	18	23
TPH (C21 - C35) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	200	76	67
TPH (C35 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	44	< 10	< 10
TPH Total C5 - C40 EH_CU+HS_1D_TOTAL	mg/kg	10	MCERTS	320	94	96
VOCs						
Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0
Chloroethane	µg/kg	1	NONE	-	-	< 1.0
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0
Benzene	µg/kg	1	MCERTS	-	-	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	-	-	< 1.0
Styrene	µg/kg	1	MCERTS	-	-	< 1.0
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0

Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP119	TP117	TP116
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	0.79
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	0.6
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	0.90
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	0.6
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	0.77
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	-	6.4
Anthracene	mg/kg	0.05	MCERTS	-	-	1.9
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP119	TP117	TP116
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	-	11
Pyrene	mg/kg	0.05	MCERTS	-	-	10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	6.9
Chrysene	mg/kg	0.05	MCERTS	-	-	5.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	7.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	1.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	6.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	2.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.86
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	3.2

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2172864	TP119	0.30	157	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
2172865	TP117	0.40	136	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
2172866	TP116	0.80	179	Loose Fibres	**Chrysotile & Amosite**	0.001	**0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number: 22-39659
Project / Site name: Donn Street A

Your Order No: 646

Lab Sample Number				2172867
Sample Reference				TP116
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	8.1
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	2.3
Total Phenols				
Total Phenols (monohydric)	µg/l	1	ISO 17025	5.3
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	3.7
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.3
Copper (dissolved)	µg/l	0.7	ISO 17025	15
Lead (dissolved)	µg/l	1	ISO 17025	6.7
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	10
Monoaromatics & Oxygenates				
Benzene	µg/l	1	ISO 17025	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10

Analytical Report Number: 22-39659
Project / Site name: Donn Street A

Your Order No: 646

Lab Sample Number				2172867
Sample Reference				TP116
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Petroleum Hydrocarbons				
TPH1 (C10 - C40) EH_1D_TOTAL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-39659
Project / Site name: Donn Street A

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2172864	TP119	None Supplied	0.3	Brown loam and clay with gravel and vegetation.
2172865	TP117	None Supplied	0.4	Brown clay and loam with gravel and vegetation.
2172866	TP116	None Supplied	0.8	Brown clay and loam with gravel and vegetation.

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Analytical Report Number : 22-39659
Project / Site name: Donn Street A

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS

Analytical Report Number : 22-39659
Project / Site name: Donn Street A

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Analytical Report Number : 22-39659
Project / Site name: Donn Street A

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP116	None Supplied	L	2172867	a	None Supplied	None Supplied	None Supplied
TP116	None Supplied	S	2172866	a	None Supplied	None Supplied	None Supplied
TP117	None Supplied	S	2172865	a	None Supplied	None Supplied	None Supplied
TP119	None Supplied	S	2172864	a	None Supplied	None Supplied	None Supplied

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Analytical Report Number : 22-39659

Replaces Analytical Report Number: 22-39659, issue no. 1
Client references/information amended.

Project / Site name:	Donn Street A	**Samples received on:**	10/02/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	14/02/2022
Your order number:	646	**Analysis completed by:**	07/04/2022
Report Issue Number:	2	**Report issued on:**	07/04/2022
Samples Analysed:	1 leachate sample - 3 soil samples		

Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	21	17
Total mass of sample received	kg	0.001	NONE	0.5	0.5	1
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	Amosite	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
Asbestos Analyst ID	N/A	N/A	N/A	MLO	MLO	MLO
General Inorganics						
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	1.3	< 0.05	0.79
Acenaphthylene	mg/kg	0.05	MCERTS	0.57	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	1.5	0.17	0.9
Fluorene	mg/kg	0.05	MCERTS	1.4	0.28	0.77
Phenanthrene	mg/kg	0.05	MCERTS	12	2	6.4
Anthracene	mg/kg	0.05	MCERTS	3.8	0.57	1.9
Fluoranthene	mg/kg	0.05	MCERTS	17	3.2	11
Pyrene	mg/kg	0.05	MCERTS	17	3.3	10
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.1	1.4	6.9
Chrysene	mg/kg	0.05	MCERTS	6.9	1.3	5.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	8.9	1.7	7.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	4.2	0.75	1.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	8.6	1.7	6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	4.5	0.78	2.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.3	0.26	0.86
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	5	0.92	3.2
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	102	18.2	66
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	10	27
Barium (aqua regia extractable)	mg/kg	1	MCERTS	680	260	390
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.6	0.63	1.8
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	1.3	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.3	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	430	60	420
Lead (aqua regia extractable)	mg/kg	1	MCERTS	260	75	290
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.9	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	40	18	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	43	19	40
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	990	200	210

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Petroleum Hydrocarbons						
TPH (C5 - C6) HS_1D_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	11	< 4.0	5.3
TPH (C16 - C21) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	62	18	23
TPH (C21 - C35) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	200	76	67
TPH (C35 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	44	< 10	< 10
TPH Total C5 - C40 EH_CU+HS_1D_TOTAL	mg/kg	10	MCERTS	320	94	96

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
VOCs						
Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0
Chloroethane	µg/kg	1	NONE	-	-	< 1.0
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0
Benzene	µg/kg	1	MCERTS	-	-	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	-	-	< 1.0
Styrene	µg/kg	1	MCERTS	-	-	< 1.0
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0

Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
SVOCs						
Aniline	mg/kg	0.1	NONE	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	0.79
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	0.6
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	0.9
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	0.6
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	0.77
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	-	6.4
Anthracene	mg/kg	0.05	MCERTS	-	-	1.9
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	-	11
Pyrene	mg/kg	0.05	MCERTS	-	-	10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	6.9
Chrysene	mg/kg	0.05	MCERTS	-	-	5.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	7.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	1.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	2.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.86

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	3.2

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A

Your Order No: 646

Lab Sample Number				2172867
Sample Reference				TP516
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	8.1
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	2.3
Total Phenols				
Total Phenols (monohydric)	µg/l	1	ISO 17025	5.3
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	3.7
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.3
Copper (dissolved)	µg/l	0.7	ISO 17025	15
Lead (dissolved)	µg/l	1	ISO 17025	6.7
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	10
Monoaromatics & Oxygenates				
Benzene	µg/l	1	ISO 17025	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A

Your Order No: 646

Lab Sample Number				2172867
Sample Reference				TP516
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Petroleum Hydrocarbons				
TPH1 (C10 - C40) EH_1D_TOTAL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2172864	TP519	0.30	157	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
2172865	TP517	0.40	136	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
2172866	TP516	0.80	179	Loose Fibres	**Chrysotile & Amosite**	0.001	**0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 22-39659
Project / Site name: Donn Street A

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2172864	TP519	None Supplied	0.3	Brown loam and clay with gravel and vegetation.
2172865	TP517	None Supplied	0.4	Brown clay and loam with gravel and vegetation.
2172866	TP516	None Supplied	0.8	Brown clay and loam with gravel and vegetation.

Analytical Report Number : 22-39659
Project / Site name: Donn Street A

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS

Analytical Report Number : 22-39659
Project / Site name: Donn Street A

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Analytical Report Number : 22-39659
Project / Site name: Donn Street A

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP516	None Supplied	L	2172867	a	None Supplied	None Supplied	None Supplied
TP516	None Supplied	S	2172866	a	None Supplied	None Supplied	None Supplied
TP517	None Supplied	S	2172865	a	None Supplied	None Supplied	None Supplied
TP519	None Supplied	S	2172864	a	None Supplied	None Supplied	None Supplied

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Analytical Report Number : 22-39659

Replaces Analytical Report Number: 22-39659, issue no. 2
Client sampling date amended.

Project / Site name:	Donn Street A	**Samples received on:**	10/02/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	14/02/2022
Your order number:	646	**Analysis completed by:**	21/04/2022
Report Issue Number:	3	**Report issued on:**	21/04/2022
Samples Analysed:	1 leachate sample - 3 soil samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	21	17
Total mass of sample received	kg	0.001	NONE	0.5	0.5	1
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	Amosite	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	0.001
Asbestos Analyst ID	N/A	N/A	N/A	MLO	MLO	MLO
General Inorganics						
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	1.3	< 0.05	0.79
Acenaphthylene	mg/kg	0.05	MCERTS	0.57	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	1.5	0.17	0.9
Fluorene	mg/kg	0.05	MCERTS	1.4	0.28	0.77
Phenanthrene	mg/kg	0.05	MCERTS	12	2	6.4
Anthracene	mg/kg	0.05	MCERTS	3.8	0.57	1.9
Fluoranthene	mg/kg	0.05	MCERTS	17	3.2	11
Pyrene	mg/kg	0.05	MCERTS	17	3.3	10
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.1	1.4	6.9
Chrysene	mg/kg	0.05	MCERTS	6.9	1.3	5.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	8.9	1.7	7.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	4.2	0.75	1.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	8.6	1.7	6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	4.5	0.78	2.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.3	0.26	0.86
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	5	0.92	3.2
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	102	18.2	66
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	10	27
Barium (aqua regia extractable)	mg/kg	1	MCERTS	680	260	390
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.6	0.63	1.8
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	1.3	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.3	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	430	60	420
Lead (aqua regia extractable)	mg/kg	1	MCERTS	260	75	290
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.9	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	40	18	29
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	43	19	40
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	990	200	210
Petroleum Hydrocarbons						
TPH (C5 - C6) $_{HS\_1D\_TOTAL}$	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) $_{HS\_1D\_TOTAL}$	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
TPH (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	11	< 4.0	5.3
TPH (C16 - C21) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	62	18	23
TPH (C21 - C35) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	200	76	67
TPH (C35 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	44	< 10	< 10
TPH Total C5 - C40 EH_CU+HS_1D_TOTAL	mg/kg	10	MCERTS	320	94	96
VOCs						
Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0
Chloroethane	µg/kg	1	NONE	-	-	< 1.0
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0
Benzene	µg/kg	1	MCERTS	-	-	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	-	-	< 1.0
Styrene	µg/kg	1	MCERTS	-	-	< 1.0
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	0.79
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	0.6
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	0.9
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	0.6
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	0.77
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Lab Sample Number				2172864	2172865	2172866
Sample Reference				TP519	TP517	TP516
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.40	0.80
Date Sampled				08/02/2022	08/02/2022	08/02/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Phenanthrene	mg/kg	0.05	MCERTS	-	-	6.4
Anthracene	mg/kg	0.05	MCERTS	-	-	1.9
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	-	11
Pyrene	mg/kg	0.05	MCERTS	-	-	10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	6.9
Chrysene	mg/kg	0.05	MCERTS	-	-	5.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	7.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	1.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	2.7
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	0.86
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	3.2

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 22-39659
Project / Site name: Donn Street A
Your Order No: 646

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2172864	TP519	0.30	157	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
2172865	TP517	0.40	136	Loose Fibres	**Amosite**	< 0.001	**< 0.001**
2172866	TP516	0.80	179	Loose Fibres	**Chrysotile & Amosite**	0.001	**0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-39659
Project / Site name: Donn Street A

Your Order No: 646

Lab Sample Number				2172867
Sample Reference				TP516
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				08/02/2022
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	8.1
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	2.3
Total Phenols				
Total Phenols (monohydric)	µg/l	1	ISO 17025	5.3
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	3.7
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.3
Copper (dissolved)	µg/l	0.7	ISO 17025	15
Lead (dissolved)	µg/l	1	ISO 17025	6.7
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	10
Monoaromatics & Oxygenates				
Benzene	µg/l	1	ISO 17025	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10

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Analytical Report Number: 22-39659
Project / Site name: Donn Street A

Your Order No: 646

Lab Sample Number				2172867
Sample Reference				TP516
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				08/02/2022
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Petroleum Hydrocarbons				
TPH1 (C10 - C40) EH_1D_TOTAL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-39659
Project / Site name: Donn Street A

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2172864	TP519	None Supplied	0.3	Brown loam and clay with gravel and vegetation.
2172865	TP517	None Supplied	0.4	Brown clay and loam with gravel and vegetation.
2172866	TP516	None Supplied	0.8	Brown clay and loam with gravel and vegetation.

Analytical Report Number : 22-39659
Project / Site name: Donn Street A

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS

Analytical Report Number : 22-39659
Project / Site name: Donn Street A

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-44468

Replaces Analytical Report Number: 22-44468, issue no. 1
Client references/information amended.

Project / Site name:	Don St	**Samples received on:**	09/03/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	09/03/2022
Your order number:	001209	**Analysis completed by:**	20/04/2022
Report Issue Number:	2	**Report issued on:**	20/04/2022
Samples Analysed:	4 water samples		

Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH	pH Units	N/A	ISO 17025	7.8	7.8	7.5	7.5
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	7.24	5.92	5.12	4.94
Total Phenols							
Total Phenols (monohydric)	µg/l	1	ISO 17025	4.2	< 1.0	1.3	2.7
Heavy Metals / Metalloids							
Calcium (dissolved)	mg/l	0.012	ISO 17025	80	79	87	77
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	3.33	3.5	0.64	1.02
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.6	1.5	1.9	1.9
Copper (dissolved)	µg/l	0.5	ISO 17025	5.5	7.5	5	4.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	0.3
Manganese (dissolved)	µg/l	0.05	ISO 17025	200	210	510	810
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.7	2.6	1.5	1.9
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.9	0.8	< 0.6	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	10	12	4.5	2.2
Monoaromatics & Oxygenates							
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH1 (C10 - C40) EH_2D_TOTAL_#1_#2	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10

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Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
VOCs							
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
SVOCs							
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

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Analytical Report Number: 22-44468
Project / Site name: Don St

Lab Sample Number				2199268	2199269	2199270	2199271
Sample Reference				Upstream	Downstream	Pond N	Pond S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/03/2022	08/03/2022	08/03/2022	08/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-44468
Project / Site name: Don St

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel

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Analytical Report Number : 22-44468
Project / Site name: Don St

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
1D	GC - Single coil/column gas chromatography				
2D	GC-GC - Double coil/column gas chromatography				
Total	Aliphatics & Aromatics				
AL	Aliphatics				
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
_	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

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4041

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Analytical Report Number : 22-84291-2

Replaces Analytical Report Number: 22-84291, issue no. 2
Client sampling date amended.

Project / Site name:	Donn Street	**Samples received on:**	14/09/2022
Your job number:	14-554	**Samples instructed on/ Analysis started on:**	14/09/2022
Your order number:	002906	**Analysis completed by:**	22/09/2022
Report Issue Number:	2	**Report issued on:**	27/10/2022
Samples Analysed:	16 water samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report relate only to the sample(s) submitted for testing

Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.8	7.9	7.9	7.9	7.9
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	2	2.2
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	2.14	2.59	1.97	3.36	3.37
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	3.2	3	< 1.0	< 1.0
Heavy Metals / Metalloids								
Calcium (dissolved)	mg/l	0.012	ISO 17025	89	84	86	81	80
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.8	0.66	0.62	2.94	3.01
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	0.02	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	3.5	1.6	3.2	4.9	3.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	40	0.45	22	130	98
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	1.4	1.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.7	< 0.5	2.3	6	3.3
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40) $_{EH\_1D\_TOTAL\_MS}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Organochlorine Pesticides (OCP)

Aldrin	µg/l	0.03	NONE	-	-	-	-	-
BHC-alpha (benzene hexachloride)	µg/l	0.03	NONE	-	-	-	-	-
BHC-beta	µg/l	0.03	NONE	-	-	-	-	-
BHC-delta	µg/l	0.03	NONE	-	-	-	-	-
BHC-gamma (Lindane, gamma HCH)	µg/l	0.03	NONE	-	-	-	-	-
Chlordane-cis	µg/l	0.03	NONE	-	-	-	-	-
Chlordane-trans	µg/l	0.03	NONE	-	-	-	-	-
Chlorothalonil	µg/l	0.03	NONE	-	-	-	-	-
DDD-o,p'	µg/l	0.03	NONE	-	-	-	-	-
DDD-p,p'	µg/l	0.03	NONE	-	-	-	-	-
DDE-o, p'	µg/l	0.03	NONE	-	-	-	-	-
DDE-p,p'	µg/l	0.03	NONE	-	-	-	-	-
DDT-o,p'	µg/l	0.03	NONE	-	-	-	-	-
DDT-p,p'	µg/l	0.03	NONE	-	-	-	-	-
Dichlorobenzonitrile, 2,6-	µg/l	0.03	NONE	-	-	-	-	-
Dieldrin	µg/l	0.03	NONE	-	-	-	-	-
Endosulfan I (alpha isomer)	µg/l	0.03	NONE	-	-	-	-	-
Endosulfan II (beta isomer)	µg/l	0.03	NONE	-	-	-	-	-
Endosulfan sulfate	µg/l	0.03	NONE	-	-	-	-	-
Endrin	µg/l	0.03	NONE	-	-	-	-	-
Endrin aldehyde	µg/l	0.03	NONE	-	-	-	-	-
Endrin ketone	µg/l	0.03	NONE	-	-	-	-	-
Heptachlor	µg/l	0.03	NONE	-	-	-	-	-
Heptachlor exo-epoxide	µg/l	0.03	NONE	-	-	-	-	-
Hexachlorobenzene	µg/l	0.03	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/l	0.03	NONE	-	-	-	-	-
Isodrin	µg/l	0.03	NONE	-	-	-	-	-
Methoxychlor, p,p'-	µg/l	0.03	NONE	-	-	-	-	-
Pentachlorobenzene	µg/l	0.03	NONE	-	-	-	-	-
Tecnazene	µg/l	0.03	NONE	-	-	-	-	-
Tetrachlorobenzene, 1,2,4,5-	µg/l	0.03	NONE	-	-	-	-	-
Trichlorobenzene, 1,2,3-	µg/l	0.03	NONE	-	-	-	-	-
Trichlorobenzene, 1,3,5-	µg/l	0.03	NONE	-	-	-	-	-
Trifluralin	µg/l	0.03	NONE	-	-	-	-	-

Organophosphorus Pesticides (OPP)

Azinphos-ethyl	µg/l	0.03	NONE	-	-	-	-	-
Azinphos-methyl	µg/l	0.03	NONE	-	-	-	-	-
Carbophenothion	µg/l	0.03	NONE	-	-	-	-	-
Chlorfenvinphos (mixture of z and e isomers)	µg/l	0.03	NONE	-	-	-	-	-

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425512	2425513	2425514	2425515	2425516
Sample Reference				Area A - A	Area A - B	Area A - C	Area A - D	Area A - E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Chlorpyrifos	µg/l	0.03	NONE	-	-	-	-	-
Demeton-O	µg/l	0.03	NONE	-	-	-	-	-
Demeton-S	µg/l	0.03	NONE	-	-	-	-	-
Diazinon	µg/l	0.03	NONE	-	-	-	-	-
Dichlorvos	µg/l	0.03	NONE	-	-	-	-	-
Dimethoate	µg/l	0.03	NONE	-	-	-	-	-
Dimethylvinphos	µg/l	0.03	NONE	-	-	-	-	-
Ethion	µg/l	0.03	NONE	-	-	-	-	-
Etrimfos	µg/l	0.03	NONE	-	-	-	-	-
Fenitrothion	µg/l	0.03	NONE	-	-	-	-	-
Fenthion	µg/l	0.03	NONE	-	-	-	-	-
Malathion	µg/l	0.03	NONE	-	-	-	-	-
Methacrifos	µg/l	0.03	NONE	-	-	-	-	-
Mevinphos , E-	µg/l	0.03	NONE	-	-	-	-	-
Mevinphos, Z-	µg/l	0.03	NONE	-	-	-	-	-
Parathion	µg/l	0.03	NONE	-	-	-	-	-
Parathion-methyl	µg/l	0.03	NONE	-	-	-	-	-
Phorate	µg/l	0.03	NONE	-	-	-	-	-
Phosalone	µg/l	0.03	NONE	-	-	-	-	-
Phosphamidon I	µg/l	0.03	NONE	-	-	-	-	-
Pirimiphos-ethyl	µg/l	0.03	NONE	-	-	-	-	-
Pirimiphos-methyl	µg/l	0.03	NONE	-	-	-	-	-
Propetamphos	µg/l	0.03	NONE	-	-	-	-	-
Triazophos	µg/l	0.03	NONE	-	-	-	-	-
Organonitrogen Pesticides (ONP)								
Pendimethalin	µg/l	0.03	NONE	-	-	-	-	-
Propyzamide	µg/l	0.03	NONE	-	-	-	-	-
Triadimefon	µg/l	0.03	NONE	-	-	-	-	-
Pyrethroids								
Cyfluthrin	µg/l	0.1	NONE	-	-	-	-	-
Cypermethrin	ng/l	10	NONE	-	-	-	-	-
Deltramethrin	µg/l	0.1	NONE	-	-	-	-	-
Flumethrin	µg/l	0.1	NONE	-	-	-	-	-
cis-Permethrin	µg/l	0.01	NONE	-	-	-	-	-
trans-Permethrin	µg/l	0.01	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	8.1	7.4	7.5	7.8	7.3
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	3.4	1.8	4.2	3.6	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	2.28	2.89	3.46	3.53	1.97
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Heavy Metals / Metalloids								
Calcium (dissolved)	mg/l	0.012	ISO 17025	55	83	100	89	88
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.6	1.25	0.92	3.69	12
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.02	< 0.02	0.04	0.02	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	3.6	2.7	3.4	2.7	1.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	0.68	630	300	58	880
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.8	0.8	1.4	1	< 0.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	< 0.6	2.1	0.6	0.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.8	2.3	22	2.9	< 0.5
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40) $_{EH\_1D\_TOTAL\_MS}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Organochlorine Pesticides (OCP)

Aldrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
BHC-alpha (benzene hexachloride)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
BHC-beta	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
BHC-delta	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
BHC-gamma (Lindane, gamma HCH)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Chlordane-cis	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Chlordane-trans	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Chlorothalonil	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDD-o,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDD-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDE-o, p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDE-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDT-o,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
DDT-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dichlorobenzonitrile, 2,6-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dieldrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endosulfan I (alpha isomer)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endosulfan II (beta isomer)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endosulfan sulfate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endrin aldehyde	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Endrin ketone	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Heptachlor	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Heptachlor exo-epoxide	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Hexachlorobenzene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Hexachlorobutadiene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Isodrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Methoxychlor, p,p'-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Pentachlorobenzene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Tecnazene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Tetrachlorobenzene, 1,2,4,5-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Trichlorobenzene, 1,2,3-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Trichlorobenzene, 1,3,5-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Trifluralin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03

Organophosphorus Pesticides (OPP)

Azinphos-ethyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Azinphos-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Carbophenothion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Chlorfenvinphos (mixture of z and e isomers)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425517	2425518	2425519	2425520	2425521
Sample Reference				Area C - F	Area C - G	Area C - H	Area B - I	Area B - J
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Chlorpyrifos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Demeton-O	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Demeton-S	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Diazinon	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dichlorvos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dimethoate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Dimethylvinphos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Ethion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Etrimfos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Fenitrothion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Fenthion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Malathion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Methacrifos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Mevinphos , E-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Mevinphos, Z-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Parathion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Parathion-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Phorate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Phosalone	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Phosphamidon I	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Pirimiphos-ethyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Pirimiphos-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Propetamphos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Triazophos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Organonitrogen Pesticides (ONP)								
Pendimethalin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Propyzamide	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Triadimefon	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	< 0.03
Pyrethroids								
Cyfluthrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
Cypermethrin	ng/l	10	NONE	-	< 10	-	< 10	< 10
Deltramethrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
Flumethrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	< 0.1
cis-Permethrin	µg/l	0.01	NONE	-	< 0.01	-	< 0.01	< 0.01
trans-Permethrin	µg/l	0.01	NONE	-	< 0.01	-	< 0.01	< 0.01

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.3	7.8	7.8	7.8	7.6
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	1.3	1.1	1.1	1.3	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.62	3.25	3.56	3.21	6.7
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Heavy Metals / Metalloids								
Calcium (dissolved)	mg/l	0.012	ISO 17025	93	86	85	87	33
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.25	3.2	3.15	3.51	1.18
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.04	0.09	0.05	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	< 0.5	2.7	3.1	3.6	4.9
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	210	70	39	35	15
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	< 0.5	0.9	1.2	1.7	1.7
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.6	< 0.6	0.7	0.7	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	< 0.5	3.7	10	5.2	2.9
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40) $_{EH\_1D\_TOTAL\_MS}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Organochlorine Pesticides (OCP)

Aldrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
BHC-alpha (benzene hexachloride)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
BHC-beta	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
BHC-delta	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
BHC-gamma (Lindane, gamma HCH)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Chlordane-cis	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Chlordane-trans	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Chlorothalonil	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDD-o,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDD-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDE-o, p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDE-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDT-o,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
DDT-p,p'	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dichlorobenzonitrile, 2,6-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dieldrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endosulfan I (alpha isomer)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endosulfan II (beta isomer)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endosulfan sulfate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endrin aldehyde	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Endrin ketone	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Heptachlor	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Heptachlor exo-epoxide	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Hexachlorobenzene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Hexachlorobutadiene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Isodrin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Methoxychlor, p,p'-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Pentachlorobenzene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Tecnazene	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Tetrachlorobenzene, 1,2,4,5-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Trichlorobenzene, 1,2,3-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Trichlorobenzene, 1,3,5-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Trifluralin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-

Organophosphorus Pesticides (OPP)

Azinphos-ethyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Azinphos-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Carbophenothion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Chlorfenvinphos (mixture of z and e isomers)	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425522	2425523	2425524	2425525	2425526
Sample Reference				Area E - K	Area C - L	Area B - N	Area E - O	Area B - P
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				13/09/2022	13/09/2022	13/09/2022	13/09/2022	13/09/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Chlorpyrifos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Demeton-O	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Demeton-S	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Diazinon	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dichlorvos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dimethoate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Dimethylvinphos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Ethion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Etrimfos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Fenitrothion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Fenthion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Malathion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Methacrifos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Mevinphos , E-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Mevinphos, Z-	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Parathion	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Parathion-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Phorate	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Phosalone	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Phosphamidon I	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Pirimiphos-ethyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Pirimiphos-methyl	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Propetamphos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Triazophos	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Organonitrogen Pesticides (ONP)								
Pendimethalin	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Propyzamide	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Triadimefon	µg/l	0.03	NONE	-	< 0.03	-	< 0.03	-
Pyrethroids								
Cyfluthrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	-
Cypermethrin	ng/l	10	NONE	-	< 10	-	< 10	-
Deltramethrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	-
Flumethrin	µg/l	0.1	NONE	-	< 0.1	-	< 0.1	-
cis-Permethrin	µg/l	0.01	NONE	-	< 0.01	-	< 0.01	-
trans-Permethrin	µg/l	0.01	NONE	-	< 0.01	-	< 0.01	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/09/2022
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH	pH Units	N/A	ISO 17025	7.5
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	4.89
Total Phenols				
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0
Heavy Metals / Metalloids				
Calcium (dissolved)	mg/l	0.012	ISO 17025	27
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.01
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	4.8
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1.7
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.1
Monoaromatics & Oxygenates				
Benzene	µg/l	1	ISO 17025	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0
Petroleum Hydrocarbons				
TPH1 (C10 - C40) $_{EH\_1D\_TOTAL\_MS}$	µg/l	10	ISO 17025	< 10
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/09/2022
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
VOCs				
Chloromethane	µg/l	1	ISO 17025	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/09/2022
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Butylbenzene	µg/l	1	ISO 17025	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/09/2022
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10

Organochlorine Pesticides (OCP)

Aldrin	µg/l	0.03	NONE	-
BHC-alpha (benzene hexachloride)	µg/l	0.03	NONE	-
BHC-beta	µg/l	0.03	NONE	-
BHC-delta	µg/l	0.03	NONE	-
BHC-gamma (Lindane, gamma HCH)	µg/l	0.03	NONE	-
Chlordane-cis	µg/l	0.03	NONE	-
Chlordane-trans	µg/l	0.03	NONE	-
Chlorothalonil	µg/l	0.03	NONE	-
DDD-o,p'	µg/l	0.03	NONE	-
DDD-p,p'	µg/l	0.03	NONE	-
DDE-o, p'	µg/l	0.03	NONE	-
DDE-p,p'	µg/l	0.03	NONE	-
DDT-o,p'	µg/l	0.03	NONE	-
DDT-p,p'	µg/l	0.03	NONE	-
Dichlorobenzonitrile, 2,6-	µg/l	0.03	NONE	-
Dieldrin	µg/l	0.03	NONE	-
Endosulfan I (alpha isomer)	µg/l	0.03	NONE	-
Endosulfan II (beta isomer)	µg/l	0.03	NONE	-
Endosulfan sulfate	µg/l	0.03	NONE	-
Endrin	µg/l	0.03	NONE	-
Endrin aldehyde	µg/l	0.03	NONE	-
Endrin ketone	µg/l	0.03	NONE	-
Heptachlor	µg/l	0.03	NONE	-
Heptachlor exo-epoxide	µg/l	0.03	NONE	-
Hexachlorobenzene	µg/l	0.03	NONE	-
Hexachlorobutadiene	µg/l	0.03	NONE	-
Isodrin	µg/l	0.03	NONE	-
Methoxychlor, p,p'-	µg/l	0.03	NONE	-
Pentachlorobenzene	µg/l	0.03	NONE	-
Tecnazene	µg/l	0.03	NONE	-
Tetrachlorobenzene, 1,2,4,5-	µg/l	0.03	NONE	-
Trichlorobenzene, 1,2,3-	µg/l	0.03	NONE	-
Trichlorobenzene, 1,3,5-	µg/l	0.03	NONE	-
Trifluralin	µg/l	0.03	NONE	-

Organophosphorus Pesticides (OPP)

Azinphos-ethyl	µg/l	0.03	NONE	-
Azinphos-methyl	µg/l	0.03	NONE	-
Carbophenothion	µg/l	0.03	NONE	-
Chlorfenvinphos (mixture of z and e isomers)	µg/l	0.03	NONE	-

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Analytical Report Number: 22-84291
Project / Site name: Donn Street

Your Order No: 002906

Lab Sample Number				2425527
Sample Reference				Area B - Q
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				13/09/2022
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Chlorpyrifos	µg/l	0.03	NONE	-
Demeton-O	µg/l	0.03	NONE	-
Demeton-S	µg/l	0.03	NONE	-
Diazinon	µg/l	0.03	NONE	-
Dichlorvos	µg/l	0.03	NONE	-
Dimethoate	µg/l	0.03	NONE	-
Dimethylvinphos	µg/l	0.03	NONE	-
Ethion	µg/l	0.03	NONE	-
Etrimfos	µg/l	0.03	NONE	-
Fenitrothion	µg/l	0.03	NONE	-
Fenthion	µg/l	0.03	NONE	-
Malathion	µg/l	0.03	NONE	-
Methacrifos	µg/l	0.03	NONE	-
Mevinphos , E-	µg/l	0.03	NONE	-
Mevinphos, Z-	µg/l	0.03	NONE	-
Parathion	µg/l	0.03	NONE	-
Parathion-methyl	µg/l	0.03	NONE	-
Phorate	µg/l	0.03	NONE	-
Phosalone	µg/l	0.03	NONE	-
Phosphamidon I	µg/l	0.03	NONE	-
Pirimiphos-ethyl	µg/l	0.03	NONE	-
Pirimiphos-methyl	µg/l	0.03	NONE	-
Propetamphos	µg/l	0.03	NONE	-
Triazophos	µg/l	0.03	NONE	-
Organonitrogen Pesticides (ONP)				
Pendimethalin	µg/l	0.03	NONE	-
Propyzamide	µg/l	0.03	NONE	-
Triadimefon	µg/l	0.03	NONE	-
Pyrethroids				
Cyfluthrin	µg/l	0.1	NONE	-
Cypermethrin	ng/l	10	NONE	-
Deltramethrin	µg/l	0.1	NONE	-
Flumethrin	µg/l	0.1	NONE	-
cis-Permethrin	µg/l	0.01	NONE	-
trans-Permethrin	µg/l	0.01	NONE	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 22-84291
Project / Site name: Donn Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Organochlorine Pesticides in water by GC MS/MS	Detemination of Pesticides in water by GC MS/MS	Organochlorine Pesticides in water by GC MS/MS	L056B-PL	W	NONE
Organophosphorus Pesticides in water by GC MS/MS	Detemination of Pesticides in water by GC MS/MS	Organophosphorus Pesticides in water by GC MS/MS	L056B-PL	W	NONE
Organonitrogen Pesticides in water by GC MS/MS	Detemination of Pesticides in water by GC MS/MS	Organonitrogen Pesticides in water by GC MS/MS	L056B-PL	W	NONE
TO - Pyrethroids by GC-MS	Determination of synthetic pyrethroids in water by GC-MS	In-house method		W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	ISO 17025

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Analytical Report Number : 22-84291
Project / Site name: Donn Street

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 21-69169

Project / Site name:	Don Street	**Samples received on:**	16/04/2021
Your job number:	14S54	**Samples instructed on/ Analysis started on:**	16/04/2021
Your order number:	14-S54-SE-R	**Analysis completed by:**	22/04/2021
Report Issue Number:	1	**Report issued on:**	22/04/2021
Samples Analysed:	5 water samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-69169
Project / Site name: Don Street

Your Order No: 14-S54-SE-R

Lab Sample Number				1839525	1839526	1839527	1839528	1839529
Sample Reference				WS108	WS105	WS101	Upstream	Downstream
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/04/2021	14/04/2021	14/04/2021	14/04/2021	14/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.1	11.5	7.3	7.8	7.9
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	1.3
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	3.36	17.9	3.08	2.65	2.29
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	80	< 1.0	< 1.0	< 1.0
Heavy Metals / Metalloids								
Calcium (dissolved)	mg/l	0.012	ISO 17025	160	75	97	85	85
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.54	10.3	1.00	2.93	2.65
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.02	0.07	0.09	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.7	< 0.2	2.1	1.3	1.7
Copper (dissolved)	µg/l	0.5	ISO 17025	3.6	9.0	5.0	3.6	4.6
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.7	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	3300	0.71	1300	9.6	41
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.5	8.9	2.8	1.7	1.7
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	1.7	< 0.6	0.8	0.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	14	2.0	17	5.4	5.2
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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Analytical Report Number: 21-69169
Project / Site name: Don Street

Your Order No: 14-S54-SE-R

Lab Sample Number				1839525	1839526	1839527	1839528	1839529
Sample Reference				WS108	WS105	WS101	Upstream	Downstream
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/04/2021	14/04/2021	14/04/2021	14/04/2021	14/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 21-69169
Project / Site name: Don Street

Your Order No: 14-S54-SE-R

Lab Sample Number				1839525	1839526	1839527	1839528	1839529
Sample Reference				WS108	WS105	WS101	Upstream	Downstream
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/04/2021	14/04/2021	14/04/2021	14/04/2021	14/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

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Analytical Report Number: 21-69169
Project / Site name: Don Street

Your Order No: 14-S54-SE-R

Lab Sample Number				1839525	1839526	1839527	1839528	1839529
Sample Reference				WS108	WS105	WS101	Upstream	Downstream
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				14/04/2021	14/04/2021	14/04/2021	14/04/2021	14/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-69169
Project / Site name: Don Street

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report

Analytical Report Number : 21-69169
Project / Site name: Don Street

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
Downstream	None Supplied	W	1839529	c	pH at 20oC in water (automated)	L099-PL	c
Upstream	None Supplied	W	1839528	c	pH at 20oC in water (automated)	L099-PL	c
WS101	None Supplied	W	1839527	c	pH at 20oC in water (automated)	L099-PL	c
WS105	None Supplied	W	1839526	c	pH at 20oC in water (automated)	L099-PL	c
WS108	None Supplied	W	1839525	c	pH at 20oC in water (automated)	L099-PL	c

APPENDIX IV – EXPLORATORY HOLE LOGS

Trial Pit Log

TrialPit No: TP201
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388332.00 - 406311.00 Level: 92.08	Date 27/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged E. Fearn

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	91.88		MADE GROUND: Light grey concrete.
				0.30	91.78		MADE GROUND: Light grey slightly sandy gravel. Gravel is fine to coarse angular to sub-angular of limestone.
				0.70	91.38		MADE GROUND: Red sandy gravel with frequent cobbles. Gravel is fine to coarse angular to sub-rounded of brick. Cobbles are angular of brick.
	0.80	ES					MADE GROUND: Dark brown slightly clayey gravelly medium sand. Gravel is fine to coarse angular to sub-rounded of brick, mudstone and ash.
				1.20	90.88		Light brown clayey medium SAND.
	1.80	B					
	1.80	ES					
				2.40	89.68		End of Pit at 2.40m

Remarks: 1. Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP202
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388306.00 - 406318.00 Level: 90.97	Date 27/01/2021
Location: Middleton		Dimensions (m): Depth 1.20, 2.10 × 0.60	Scale 1:24
Client: Kellen Homes			Logged E. Fearn

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	90.87		MADE GROUND: Black brown slightly clayey gravelly medium sand with rootlets. Gravel is fine to coarse angular to sub-rounded of mudstone and brick.
				0.30	90.67		MADE GROUND: Light yellow sandy gravel. Gravel is fine to coarse angular to sub-angular of sandstone.
				0.35	90.62		MADE GROUND: Asphalt.
	1.00	ES					MADE GROUND: Light brown grey slightly clayey gravelly medium sand with cobbles. Gravel is fine to coarse angular to sub-rounded of mudstone, brick and asphalt. Cobbles are angular of brick.
				1.20	89.77		End of Pit at 1.20m

Remarks: 1. Terminated due to suspected drainage pipe.

Stability: Stable.

Trial Pit Log

TrialPit No: TP203
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388267.00 - 406298.00 Level: 90.80	Date 27/01/2021
Location: Middleton		Dimensions (m): 2.20 × 0.60 Depth 3.00	Scale 1:24
Client: Kellen Homes			Logged E. Fearn

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	90.50		MADE GROUND: Light grey slightly clayey gravelly medium sand with rootlets. Gravel is fine to coarse angular to rounded of mudstone, limestone and brick.
				1.00	89.80		MADE GROUND: Light red brown slightly gravelly medium sand. Gravel is fine to coarse angular to sub-angular of sandstone and brick.
	1.20	ES					MADE GROUND: Light brown slightly sandy gravelly clay. Gravel is fine to coarse angular to sub-rounded of mudstone, brick and asphalt.
				1.80	89.00		Firm medium strength light brown sandy CLAY. Becoming stiff high strength from circa. 2.30m bgl.
	2.00	D					
	2.00	ES					
	2.00	HVP	74				
	2.30	HVP	89				
				3.00	87.80		End of Pit at 3.00m

Remarks: 1. Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP204
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388271.00 - 406311.00 Level: 89.69	Date 27/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 1.10	Scale 1:24
Client: Kellen Homes			Logged E. Fearn

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	89.59		MADE GROUND: Asphalt.
				0.30	89.39		MADE GROUND: Light grey sandy gravel. Gravel is fine to coarse angular to sub-rounded of limestone.
▼ 0.40	0.80	ES					MADE GROUND: Black very sandy clayey gravel with cobbles, metal and rope. Gravel is fine to coarse angular to sub-rounded of mudstone, brick and concrete. Cobbles are angular of brick.
				1.10	88.59		End of Pit at 1.10m

Remarks: 1. Terminated due to filling with water. 2. Water strike encountered at 0.40m bgl. 3. Significant hydrocarbon odour and sheen present between 0.30m and 1.10m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP205
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388261.00 - 406329.00 Level: 89.49	Date 27/01/2021
Location: Middleton		Dimensions (m): 2.10 x 0.60 Depth 1.20	Scale 1:24
Client: Kellen Homes			Logged E. Fearn

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	89.39		MADE GROUND: Light grey concrete with rebar.
				0.30	89.19		MADE GROUND: Light grey slightly clayey sandy gravel. Gravel is fine to coarse angular to sub-rounded of limestone.
▼ 0.70	0.70 0.70	B ES					MADE GROUND: Dark grey clayey gravelly medium sand with cobbles and metal. Gravel is fine to coarse angular to sub-angular of mudstone and brick. Cobbles are angular of brick.
				1.20	88.29		End of Pit at 1.20m

Remarks: 1. Terminated due to metal beam restricting machine to dig. 2. Water strike encountered at 0.70m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP206
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388245.00 - 406353.00 Level: 89.45	Date 27/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 0.10	Scale 1:24
Client: Kellen Homes			Logged E. Fearn

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	89.35		MADE GROUND: Light grey concrete with rebar. End of Pit at 0.10m

Remarks: 1. Terminated as rebar could not be broken.

Stability: Stable.

Trial Pit Log

TrialPit No: TP207
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388260.00 - 406382.00 Level: 89.47	Date 27/01/2021
Location: Middleton		Dimensions (m): 2.10 x 0.60 Depth 3.00	Scale 1:24
Client: Kellen Homes			Logged E. Fearn

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	89.32		MADE GROUND: Light grey concrete with rebar.
				0.40	89.07		MADE GROUND: Light yellow grey slightly clayey sandy gravel. Gravel is fine to coarse angular to sub-angular of limestone.
▼ 0.50							MADE GROUND: Dark grey slightly gravelly silty clay. Gravel is fine to coarse angular to sub-rounded of mudstone and brick.
	1.00	ES					
				2.60	86.87		Light brown grey clayey medium SAND.
	2.70	B					
	2.70	ES					
				3.00	86.47		End of Pit at 3.00m

Remarks: 1. Complete. 2. Water strike encountered at 0.50m bgl.

Stability: Stable.

Trial Pit Log

TrialPit No: TP208
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388274.00 - 406357.00 Level: 89.44	Date 27/01/2021
Location: Middleton		Dimensions (m): 2.10 x 0.60 Depth 0.10	Scale 1:24
Client: Kellen Homes			Logged E. Fearn

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	89.34		MADE GROUND: Light grey concrete with rebar. End of Pit at 0.10m

Remarks: 1. Terminated as rebar could not be broken.

Stability: Stable.

Trial Pit Log

TrialPit No: TP209
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388210.00 - 406360.00 Level: 89.27	Date 30/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 1.40	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Brown sandy clay. Gravel is fine to medium, subangular of mudstone and brick.
				0.30	88.97		MADE GROUND: Black sandy gravel with occasional cobbles and boulders. Gravel is fine to coarse, subangular of concrete, brick, clinker. Cobbles and boulders are subangular of brick and concrete. (Land drain encountered are 1.40m bgl)
▼ 0.80	0.80	ES					
				1.40	87.87		End of Pit at 1.40m

Remarks: 1. Terminated at 1.40 m bgl due to rapid water ingress. 2. Water strike encountered at 0.80 m bgl due to a land drain.

Stability: Stable

Trial Pit Log

TrialPit No: TP210
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388229.00 - 406382.00 Level: 89.10	Date 30/03/2021
Location: Middleton		Dimensions (m): Depth 2.40, 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	88.95		MADE GROUND: Asphalt.
				0.30	88.80		MADE GROUND: Grey sandy gravel. Gravel is fine to medium, subangular of limestone. (subbase)
	0.50	ES		0.80	88.30		MADE GROUND: Dark brownish black sandy clayey gravel. Gravel is fine to coarse, subangular of asphalt, brick, coal and concrete.
▼ 2.30	1.20	ES		2.40	86.70		MADE GROUND: Soft grey brown mottled very sandy clay. (organic odour) End of Pit at 2.40m

Remarks: 1. Terminated at 2.40 m bgl due to rapid water ingress. 2. Water strike encountered at 2.30 m bgl due to a land drain. 3. Organic odour encountered between 0.80 m bgl and 2.40 m bgl.

Stability: Stable

Trial Pit Log

TrialPit No: TP211
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388239.00 - 406338.00 Level: 89.29	Date 30/03/2021
Location: Middleton		Dimensions (m): Depth 2.00 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	88.99		MADE GROUND: Dark brown clayey fine to medium sand. Gravel is fine to coarse, subangular of brick and mudstone.
	0.50	ES					MADE GROUND: Dark brownish black sandy clayey gravel. Gravel is fine to coarse, subangular of brick, clinker and asphalt.
▼ 0.70				0.80	88.49		MADE GROUND: Brown sandy gravelly clay. Gravel is fine to coarse, subangular of mudstone, brick and concrete with metal and timber.
	1.00	B					
	1.20	ES					
▼ 1.90				1.90	87.39		MADE GROUND: Brown sandy gravel. Gravel is fine to coarse, subrounded to rounded of mudstone.
				2.00	87.29		End of Pit at 2.00m

Remarks: 1. Complete. 2. Water strike encountered at 0.70 m bgl as perched water. 3. Second water strike encountered at 1.90 m bgl.

Stability: Stable

Borehole Log

Borehole No. **WS201A**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388224E - 406346N	Hole Type WS
Location:	Middleton		Level:	89.34 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	89.34		MADE GROUND: Dark brown slightly sandy clay with frequent rootlets.
		0.50	ES					MADE GROUND: Dark brown slightly gravelly clayey sand. Gravel is fine to medium, angular to subangular of brick and mudstone with occasional ceramic fragments and foil packets.
					0.80	89.04		
	▼ 1.00	1.00	SPT	N=0 (1,1/0,0,0,0)	1.00	88.54		MADE GROUND: Light brown slightly gravelly sandy clay. Gravel is fine to coarse, angular to subangular of brick and mudstone.
		1.20	ES					Very loose brown slightly gravelly clayey fine to medium SAND. Gravel is fine to coarse, angular to subangular of mudstone and sandstone.
					1.60	88.34		Very stiff very high strength orange brown slightly gravelly CLAY. Gravel is fine to coarse, angular to subrounded of mudstone.
		2.00	D					
		2.00	SPT	N=57 (2,5/6,13,17,21)				
					2.45	87.74		End of Borehole at 2.45m

1 2 3 4 5 6 7 8 9 10

Remarks

1. Incomplete. 2. Terminated at 2.45 m bgl due to refusal on a cobble. 3. Water strike encountered at 1.00 m bgl.

Borehole Log

Borehole No. **WS201B**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388219E - 406347N	Hole Type WS
Location:	Middleton		Level:	89.33 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	89.33		MADE GROUND: Dark brown slightly sandy slightly gravelly clay with frequent rootlets. Gravel is fine to coarse, angular to subangular of brick.
								MADE GROUND: Brown slightly gravelly clay. Gravel is fine to coarse, angular to subrounded of mudstone, sandstone and coal.
	1.00	1.00	SPT	N=4 (1,1/1,1,1,1)	1.00	89.23		Loose brown slightly gravelly clayey fine to medium SAND. Gravel is fine to coarse, angular to subangular of mudstone and sandstone.
					1.60	88.33		Very stiff very high strength orange brown slightly gravelly CLAY. Gravel is fine to coarse, angular to subrounded of mudstone.
		2.00	SPT	N=50 (2,6/10,10,14,16)				
					2.45	87.73		End of Borehole at 2.45m

Remarks

1. Incomplete. 2. Terminated at 2.45 m bgl due to refusal on a cobble. 3. Water strike encountered at 1.00 m bgl.

Borehole Log

Borehole No. **WS201C**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388221E - 406352N	Hole Type WS
Location:	Middleton		Level:		Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Dark brown slightly sandy clay with frequent rootlets.
					0.50			MADE GROUND: Firm brown gravelly clay. Gravel is fine to coarse, angular to subrounded of mudstone and brick.
	1.00	1.00	SPT	N=5 (1,1/2,1,1,1)	1.00			MADE GROUND: Firm gravelly clay. Gravel is fine to coarse of angular to subrounded of mudstone and brick.
		2.00	SPT	50 (4,21/50 for 135mm)	2.20			Loose brown slightly gravelly clayey fine to medium SAND. Gravel is fine to coarse, angular to subangular of mudstone and sandstone. (no recovery 1.50m to 2.00m bgl)
								End of Borehole at 2.20m

Remarks

1. Incomplete. 2. Terminated at 2.20 m bgl due to refusal on a cobble. 3. Water strike encountered at 1.00 m bgl. 4. Monitoring well installed (Response zone: 1.00 m bgl - 2.00 m bgl).

Borehole Log

Borehole No. **WS202A**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388209E - 406370N	Hole Type WS
Location:	Middleton		Level:	89.26 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
	1.00				1.00	89.26		MADE GROUND: Dark brown sandy clay. Gravel is fine to coarse, angular to subangular of mudstone and brick with rare fragments of glass. (occasional rootlets within upper 0.20m bgl)
					2.00	88.26		MADE GROUND: Dark brown slightly clayey gravelly fine to medium sand. Gravel is fine to coarse, angular to subangular of brick and mudstone.
								End of Borehole at 2.00m

Remarks

1. Incomplete. 2. Terminated at 2.00 m bgl due to refusal with the barrel. 3. Water strike encountered at 1.00 m bgl.

Borehole Log

Borehole No. **WS202B**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388209E - 406375N	Hole Type WS
Location:	Middleton		Level:	89.26 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
	1.00	1.00	SPT	N=0 (1,0/0,0,0,0)				MADE GROUND: Dark brown gravelly clay with occasional fine to medium sand pockets. Gravel is fine to coarse, angular to subangular of sandstone, mudstone and brick.
					1.50	89.26		
		1.90 2.00	ES SPT	N=0 (0,0/0,0,0,0)				MADE GROUND: Greyish brown sandy CLAY with occasional pockets of organic matter. (Slight hydrocarbon odour)
					2.50	87.76		
		2.90 3.00	ES SPT	50 (7,10/50 for 245mm)				Dense brown slightly gravelly clayey fine to medium SAND. Gravel is fine to coarse, angular to subangular of mudstone and sandstone.
					3.45	86.76		End of Borehole at 3.45m

Remarks

1. Incomplete. 2. Terminated at 3.45 m bgl due to refusal on possible weathered mudstone bedrock. 3. Water strike encountered at 1.00 m bgl. 4. Slight hydrocarbon odour encountered between 1.50 m bgl and 2.50 m bgl. 5. Monitoring well installed (Response zone: 0.50 m bgl - 1.00 m bgl).

Borehole Log

Borehole No. **WS203**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388247E - 406354N	Hole Type WS
Location:	Middleton		Level:	89.43 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	89.43		MADE GROUND: Concrete.
					0.50	89.23		MADE GROUND: Grey sandy gravel. Gravel is fine to medium, subangular of limestone. (subbase)
		0.80	ES					MADE GROUND: Light brown very gravelly fine to coarse sand. Gravel is fine to coarse, subangular of coal, brick, sandstone and mudstone.
		1.00	B		1.00	88.93		
		1.00	SPT	N=4 (2,1/1,1,1,1)				MADE GROUND: Reddish brown sandy gravel. Gravel is fine to coarse, subangular of brick.
		1.50	ES		1.50	88.43		
		2.00	SPT	N=19 (2,5/4,4,6,5)				MADE GROUND: Black silty fine to medium sand (hydrocarbon odour)
		3.00	SPT	N=23 (5,6/6,5,6,6)				
		4.00	SPT	50 (7,10/50 for 260mm)				
					4.45	87.93		End of Borehole at 4.45m

Remarks

1. Incomplete. 2. Terminated at 4.45 m bgl due to collapsing sand. 3. Hyrdrocarbon odour encountered between 1.50 m bgl and 4.45 m bgl.

Borehole Log

Borehole No. **WS204**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388247E - 406383N	Hole Type WS
Location:	Middleton		Level:	89.15 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	89.15		MADE GROUND: Concrete with rebar.
	▼ 0.40	0.60	ES		0.50	88.85		MADE GROUND: Light brown very gravelly fine to coarse sand. Gravel is fine to coarse, subangular of coal, brick, sandstone and mudstone.
		1.00	SPT	N=3 (2,1/1,1,0,1)				MADE GROUND: Greyish brown sandy clayey gravel. Gravel is fine to medium subangular of brick and concrete. (Limited recovery)
		2.00	SPT	N=13 (3,4/0,0,0,13)				
		3.00	SPT	50 (10,15/50 for 260mm)				
					3.45	88.65		End of Borehole at 3.45m

Remarks

1. Incomplete. 2. Terminated at 3.45 m bgl due to refusal on cobble. 3. Water strike encountered at 0.40 m bgl.

Borehole Log

Borehole No. **WS205**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388276E - 406370N	Hole Type WS
Location:	Middleton		Level:	89.42 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	89.42		MADE GROUND: Concrete with rebar.
		0.60	ES		0.50	89.12		MADE GROUND: Grey sandy gravel. Gravel is fine to medium, subangular of limestone. (subbase)
		1.00	SPT	N=2 (0,0/0,0,1,1)				MADE GROUND: Dark brown black clayey silty fine to medium sand. Gravel is fine to medium subangular of brick, coal and sandstone.
		1.50	ES					
		2.00	SPT	N=17 (3,3/4,4,5,4)	2.00	88.92		Medium dense brown very gravelly fine to coarse SAND. Gravel is fine to medium, subrounded to rounded of mudstone and sandstone. Becoming dense from circa 4.00 m bgl.
		3.00	SPT	N=34 (5,7/7,8,10,9)				
		4.00	SPT	50 (7,10/50 for 275mm)				
					4.45	87.42		End of Borehole at 4.45m

Remarks

1. Incomplete. 2. Terminated at 4.45 m bgl due to refusal in dense gravel. 3. Monitoring well installed (Response zone: 0.50m bgl - 1.50 m bgl).

Borehole Log

Borehole No. **WS206**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388260E - 406327N	Hole Type WS
Location:	Middleton		Level:	89.80 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	89.80		MADE GROUND: Concrete.
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse, angular to subangular of brick and mudstone.
		0.90	ES					
		1.00	SPT	N=8 (3,3/2,2,2,2)	1.00	89.70		MADE GROUND: Dark grey brown gravelly clay. Gravel is fine to coarse, subangular of brick, mudstone and sandstone.
	1.30							
		2.00	SPT	N=20 (4,5/5,6,6,3)	2.00	88.80		MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse, angular of subangular of brick and mudstone.
					2.70	87.80		MADE GROUND: Dark grey brown gravelly clay. Gravel is fine to coarse, angular to subrounded brick and mudstone.
		3.00	SPT	N=28 (4,6/7,7,7,7)	3.00	87.10		MADE GROUND: Brown slightly sandy slightly gravelly fine to medium sand. Gravel is fine to coarse, angular to subrounded of mudstone.
					3.70	86.80		Firm brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium, angular to subangular of mudstone.
		3.90	ES					
		4.00	D		4.00	86.10		End of Borehole at 4.00m

Remarks

1. Incomplete. 2. Terminated at 4.00 m bgl due to collapsing sand. 3. Water strike encountered at 1.30 m bgl. 4. Monitoring well installed (Response zone: 0.50 m bgl - 1.20 m bgl)

Borehole Log

Borehole No. **WS207**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388284E - 406304N	Hole Type WS
Location:	Middleton		Level:	90.88 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	90.88		Dark brown sandy CLAY (TOPSOIL) with frequent rootlets.
		0.50	ES					Loose brown gravelly fine to medium SAND. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone.
		1.00	SPT	N=4 (1,1/1,1,1,1)				
					1.50	90.78		Very loose brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, angular to subangular of mudstone and sandstone. (Black fine to medium SAND with organic matter between 2.90m and 3.00m bgl). Becoming loose at circa 3.00 m bgl and then becoming medium dense at circa 5.00 m bgl.
		2.00	SPT	N=0 (1,0/0,0,0,0)				
	3.00	2.95	ES					
		3.00	SPT	N=6 (2,1/1,2,1,2)				
		4.00	SPT	N=7 (1,1/2,2,1,2)				
		5.00	SPT	N=30 (4,5/7,7,8,8)				
					5.45	89.38		End of Borehole at 5.45m

1 2 3 4 5 6 7 8 9 10

Remarks

1. Complete. 2. Water strike encountered at 3.00 m bgl. 3. Monitoring well installed (Response zone: 0.80 m bgl - 3.80 m bgl).

Borehole Log

Borehole No. **WS208**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388343E - 406303N	Hole Type WS
Location:	Middleton		Level:	92.15 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05	92.15		MADE GROUND: Dark brown slightly silty gravelly fine to medium sand with organic material (rootlets and wood).
					0.40	92.10		MADE GROUND: Greyish red sandy gravel. Gravel is fine to coarse subangular of mudstone and sandstone.
		0.60	ES					
		1.00	SPT	N=0 (1,0/0,0,0,0)	0.90	91.75		MADE GROUND: Black gravelly fine to coarse sand. Gravel is fine to medium, subangular of mudstone, brick and coal.
					1.00	91.25		MADE GROUND: Dark brown sandy clay with rootlets. (relic topsoil)
		1.50	ES					MADE GROUND: Brown clayey silty gravelly fine to medium sand. Gravel is fine to coarse, subangular to subrounded of sandstone, coal and brick with rare timber.
		2.00	SPT	N=1 (1,0/0,1,0,0)				
		3.00	SPT	N=2 (1,1/0,1,1,0)	3.00	91.15		MADE GROUND: Dark brown very silty fine to medium sand with fragments of timber of timber. (limited recovery)
		4.00	SPT	N=7 (1,1/2,2,1,2)				
		5.00	SPT	N=30 (4,5/7,7,8,8)				
					5.45	89.15		End of Borehole at 5.45m

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Remarks

1. Complete. 2. Monitoring well installed (Response zone: 0.70 m bgl - 3.70 m bgl).

Borehole Log

Borehole No. **WS209**

Sheet 1 of 1

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388305E - 406323N	Hole Type WS
Location:	Middleton		Level:	89.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	30/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES		0.30	89.66		MADE GROUND: Dark brown slightly silty gravelly fine to medium sand with organic material (rootlets and wood).
		1.00	SPT	N=20 (3,5/6,5,5,4)				MADE GROUND: Dark brown slightly clayey very gravelly fine to coarse sand. Gravel is fine to coarse, subangular to subrounded mudstone, brick, clinker and concrete.
		2.00	SPT	N=13 (3,3/3,4,3,3)	2.20	89.36		Medium dense brown silty fine to medium SAND.
		2.50	ES					
		3.00	SPT	N=27 (6,6/7,7,7,6)				
					4.00	87.46		End of Borehole at 4.00m

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Remarks

1. Incomplete. 2. Terminated at 4.00 m bgl due to collapsing sand.

Borehole Log

Borehole No. **RB201**

Sheet 1 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388215E - 406351N	Hole Type BH
Location:	Middleton		Level:	89.12 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	27/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular of brick and mudstone.
					2.10	89.12		Brown fine to medium SAND.
					3.30	87.02		COAL.
					3.90	85.82		Grey MUDSTONE.
					5.00	85.22		Grey SANDSTONE.
					6.80	84.12		Dark grey MUDSTONE.
					8.00	82.32		Light grey SANDSTONE.

Remarks

1. Complete. 2. Coal encountered between 3.30m and 3.90m bgl, 27.80m and 29.00m bgl. 3. No loss of flush or voids encountered.

Borehole Log

Borehole No. **RB201**

Sheet 2 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388215E - 406351N	Hole Type BH
Location:	Middleton		Level:	89.12 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	27/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light grey SANDSTONE.
					16.80	81.12		Grey MUDSTONE.
					17.20	72.32		Light grey SANDSTONE.
					17.80	71.92		Grey MUDSTONE with occasional SANDSTONE.

Remarks

1. Complete. 2. Coal encountered between 3.30m and 3.90m bgl, 27.80m and 29.00m bgl. 3. No loss of flush or voids encountered.

Borehole Log

Borehole No. **RB201**

Sheet 3 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388215E - 406351N	Hole Type BH
Location:	Middleton		Level:	89.12 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	27/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey MUDSTONE with occasional SANDSTONE.
					27.80	71.32		COAL.
					29.00	61.32		Dark grey MUDSTONE.

Remarks

1. Complete. 2. Coal encountered between 3.30m and 3.90m bgl, 27.80m and 29.00m bgl. 3. No loss of flush or voids encountered.

Borehole Log

Borehole No. **RB201**

Sheet 4 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388215E - 406351N	Hole Type BH
Location:	Middleton		Level:	89.12 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	27/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey MUDSTONE.
					30.40	60.12		Grey MUDSTONE with bands of SANDSTONE.
					34.20	58.72		Grey SANDSTONE with occasional bands of MUDSTONE.
					40.00	54.92		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. Coal encountered between 3.30m and 3.90m bgl, 27.80m and 29.00m bgl. 3. No loss of flush or voids encountered.

Borehole Log

Borehole No. **RB202**

Sheet 1 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388245E - 406380N	Hole Type BH
Location:	Middleton		Level:	89.44 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	89.44		MADE GROUND: Concrete.
					0.50	89.24		MADE GROUND: Light yellow sandy gravel. Gravel is fine to coarse angular to sub-angular of limestone.
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and ash.
					1.60	88.94		Grey sandy CLAY.
					2.70	87.84		Brown fine to medium SAND.
					5.00	86.74		Grey MUDSTONE with bands of SANDSTONE.
					7.10	84.44		Grey SANDSTONE.

Remarks

1. Complete. 2. Coal encountered between 20.00m and 2.80m bgl. 3. No voids or loss of flush encountered.

Borehole Log

Borehole No. **RB202**

Sheet 2 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388245E - 406380N	Hole Type BH
Location:	Middleton		Level:	89.44 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey SANDSTONE.
					13.90	82.34		Grey MUDSTONE with bands of SANDSTONE.
					16.00	75.54		Grey brown SANDSTONE.
					19.20	73.44		Dark grey MUDSTONE with traces of COAL.
					20.00	70.24		

Remarks

1. Complete. 2. Coal encountered between 20.00m and 2.80m bgl. 3. No voids or loss of flush encountered.

Borehole Log

Borehole No. **RB202**

Sheet 3 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388245E - 406380N	Hole Type BH
Location:	Middleton		Level:	89.44 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								COAL with black MUDSTONE.
					20.80	69.44		Grey MUDSTONE with bands of SANDSTONE.
					27.40	68.64		Grey SANDSTONE with occasional bands of MUDSTONE.

21 22 23 24 25 26 27 28 29 30

Remarks

1. Complete. 2. Coal encountered between 20.00m and 2.80m bgl. 3. No voids or loss of flush encountered.

Borehole Log

Borehole No. **RB202**

Sheet 4 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388245E - 406380N	Hole Type BH
Location:	Middleton		Level:	89.44 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey SANDSTONE with occasional bands of MUDSTONE.
					40.00	62.04		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. Coal encountered between 20.00m and 2.80m bgl. 3. No voids or loss of flush encountered.

Borehole Log

Borehole No. **RB204**

Sheet 1 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388273E - 406367N	Hole Type BH
Location:	Middleton		Level:	89.44 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	89.44		MADE GROUND: Concrete.
					0.50	89.24		MADE GROUND: Light yellow sandy gravel. Gravel is fine to coarse angular to sub-angular of limestone.
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and ash.
					2.00	88.94		Grey brown CLAY with bands of SAND.
					2.70	87.44		Brown fine to medium SAND with bands of GRAVEL.
					7.10	86.74		Grey MUDSTONE with bands of SANDSTONE.

1 2 3 4 5 6 7 8 9 10

Remarks

1. Complete. 2. Coal encountered between 19.10m and 20.00m bgl. 3. No voids or loss of flush encountered.

Borehole Log

Borehole No. **RB204**

Sheet 2 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388273E - 406367N	Hole Type BH
Location:	Middleton		Level:	89.44 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey MUDSTONE with bands of SANDSTONE.
					15.90	82.34		Grey SANDSTONE.
					19.10	73.54		COAL with black MUDSTONE.
					20.00	70.34		

Remarks

1. Complete. 2. Coal encountered between 19.10m and 20.00m bgl. 3. No voids or loss of flush encountered.

Borehole Log

Borehole No. **RB204**

Sheet 3 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388273E - 406367N	Hole Type BH
Location:	Middleton		Level:	89.44 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey MUDSTONE.
					24.50	69.44		Grey SANDSTONE with occasional bands of MUDSTONE.

21 22 23 24 25 26 27 28 29 30

Remarks

1. Complete. 2. Coal encountered between 19.10m and 20.00m bgl. 3. No voids or loss of flush encountered.

Borehole Log

Borehole No. **RB204**

Sheet 4 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388273E - 406367N	Hole Type BH
Location:	Middleton		Level:	89.44 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
								Grey SANDSTONE with occasional bands of MUDSTONE.	31
									32
									33
									34
									35
									36
									37
									38
									39
					40.00	64.94		End of Borehole at 40.00m	40

Remarks

1. Complete. 2. Coal encountered between 19.10m and 20.00m bgl. 3. No voids or loss of flush encountered.

Borehole Log

Borehole No. **RB206**

Sheet 1 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388342E - 406318N	Hole Type BH
Location:	Middleton		Level:	92.04 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	04/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	92.04		MADE GROUND: Concrete.
					0.60	91.84		MADE GROUND: Light yellow sandy gravel. Gravel is fine to coarse angular to sub-angular of limestone.
					2.00	91.44		MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and ash.
					9.20	90.04		Brown fine to medium SAND.
								Brown fine to medium SAND with bands of GRAVEL and CLAY.

1 2 3 4 5 6 7 8 9 10

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB206**

Sheet 2 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388342E - 406318N	Hole Type BH
Location:	Middleton		Level:	92.04 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	04/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND with bands of GRAVEL and CLAY.
					13.00	82.84		Brown fine to medium SAND.
					14.90	79.04		Hard drilling, no voids or soft bands.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB206**

Sheet 3 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388342E - 406318N	Hole Type BH
Location:	Middleton		Level:	92.04 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	04/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids or soft bands.

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Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB206**

Sheet 4 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388342E - 406318N	Hole Type BH
Location:	Middleton		Level:	92.04 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	04/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids or soft bands.
					40.00	77.14		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB207**

Sheet 1 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388247E - 406331N	Hole Type BH
Location:	Middleton		Level:	89.54 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and ash.
					1.10	89.54		Brown fine to medium SAND.
					2.70	88.44		Brown fine to medium SAND with COAL traces.
					3.80	86.84		Brown fine to medium SAND and GRAVEL.
					4.80	85.74		Grey brown SANDSTONE with bands of MUDSTONE.
					6.40	84.74		Grey MUDSTONE.
					7.80	83.14		Soft drilling, possible workings, total loss of flush.
					10.00	81.74		

Remarks

1. Complete. 2. Soft drilling, possible workings, total loss of flush between 7.80m and 10.00m bgl.

Borehole Log

Borehole No. **RB207**

Sheet 2 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388247E - 406331N	Hole Type BH
Location:	Middleton		Level:	89.54 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. Soft drilling, possible workings, total loss of flush between 7.80m and 10.00m bgl.

Borehole Log

Borehole No. **RB207**

Sheet 3 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388247E - 406331N	Hole Type BH
Location:	Middleton		Level:	89.54 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling.

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Remarks

1. Complete. 2. Soft drilling, possible workings, total loss of flush between 7.80m and 10.00m bgl.

Borehole Log

Borehole No. **RB207**

Sheet 4 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388247E - 406331N	Hole Type BH
Location:	Middleton		Level:	89.54 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	03/02/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling.
					40.00	79.54		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. Soft drilling, possible workings, total loss of flush between 7.80m and 10.00m bgl.

Borehole Log

Borehole No. **RB208**

Sheet 1 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388302E - 406313N	Hole Type BH
Location:	Middleton		Level:	89.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	28/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	89.66		MADE GROUND: Concrete.
					0.50	89.46		MADE GROUND: Light yellow sandy gravel. Gravel is fine to coarse angular to sub-angular of limestone.
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and ash.
					4.00	89.16		Brown fine to medium SAND.

Remarks

1. Complete. 2. No loss of flush, voids or coal encountered.

Borehole Log

Borehole No. **RB208**

Sheet 2 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388302E - 406313N	Hole Type BH
Location:	Middleton		Level:	89.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	28/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND.
					11.90	85.66		Grey MUDSTONE.
					16.20	77.76		Dark grey MUDSTONE.
					17.40	73.46		Grey MUDSTONE with bands of SANDSTONE.
					18.00	72.26		Grey SANDSTONE.
					20.00	71.66		

Remarks

1. Complete. 2. No loss of flush, voids or coal encountered.

Borehole Log

Borehole No. **RB208**

Sheet 3 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388302E - 406313N	Hole Type BH
Location:	Middleton		Level:	89.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	28/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey MUDSTONE with bands of SANDSTONE.
					26.20	69.66		Grey SANDSTONE.
					27.90	63.46		COAL with black MUDSTONE.
					29.00	61.76		Grey MUDSTONE.

21 22 23 24 25 26 27 28 29 30

Remarks

1. Complete. 2. No loss of flush, voids or coal encountered.

Borehole Log

Borehole No. **RB208**

Sheet 4 of 4

Project Name:	Don Street- Parcel A	Project No. 14554.	Co-ords:	388302E - 406313N	Hole Type BH
Location:	Middleton		Level:	89.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	28/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					30.30	60.66		Grey MUDSTONE.
								Grey SANDSTONE with bands of MUDSTONE.
					40.00	59.36		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. No loss of flush, voids or coal encountered.

Trial Pit Log

TrialPit No: TP301
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388388.00 - 406305.00 Level: 92.64	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 2.50	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.05	ES		0.10	92.54		MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, angular to sub-angular of mudstone and limestone.
	1.00 1.00	B ES					MADE GROUND: Red brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of clinker and sandstone.
▼ 2.30				2.50	90.14		End of Pit at 2.50m

Remarks: 1. Terminated at 2.50m bgl due to side wall collapse from 0.50m to 2.30m bgl. 2. Steady water ingress encountered at 2.30m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP302
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388385.00 - 406318.00 Level: 92.62	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	92.52		MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, angular to sub-angular of mudstone and limestone.
				0.20	92.42		MADE GROUND: Red brown gravel. Gravel is fine to coarse, angular to sub-angular of brick (Layer of bricks)
	0.50	ES					MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of clinker with rare metal rod. (Red brown band between 1.00m and 1.30m bgl)
	2.00	ES					
▼ 2.30				2.40	90.22		End of Pit at 2.40m

Remarks: 1. Terminated at 2.40m bgl due to rapid water ingress at 2.30m bgl.

Stability: Unstable between 0.60m and 2.40m bgl.

Trial Pit Log

TrialPit No: TP303
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388406.00 - 406315.00 Level: 92.79	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	92.74		MADE GROUND: Asphalt.
				0.15	92.64		MADE GROUND: Brown grey gravel. Gravel is fine to coarse, angular to sub-angular of limestone.
	0.30	ES					MADE GROUND: Dark brown gravelly fine to medium sand with occasional cobbles. Gravel is fine to coarse, angular to sub-angular of sandstone.
	1.50	ES					
				1.70	91.09		MADE GROUND: Grey sandy gravel with frequent cobbles and rare boulders. Gravel is fine to coarse, angular to sub-angular of sandstone, concrete and rare brick. Cobbles and boulders are angular to sub-angular of sandstone.
▼ 2.30							
				2.40	90.39		End of Pit at 2.40m

Remarks: 1. Terminated due to water ingress at 2.30m bgl.

Stability: Stable.

Trial Pit Log

			TrialPit No TP304 Sheet 1 of 1
Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388444.00 - 406294.00 Level: 92.63	Date 11/03/2021
Location: Middleton		Dimensions (m): Depth 2.90 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.10	92.53		MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, angular to sub-angular of mudstone and limestone.
				0.20	92.43		MADE GROUND: Brown grey gravel. Gravel is fine to coarse, angular to sub-angular of limestone.
							MADE GROUND: Brown gravelly fine to medium sand with frequent cobbles and rare boulders. Gravel is fine to coarse, angular to sub-angular of sandstone, concrete and brick with rare metal wire at 0.40m bgl. Cobbles and boulders are angular to sub-angular of concrete.
				1.90	90.73		Soft dark brown very sandy CLAY.
	2.00	HVP	13				
	2.20	ES		2.10	90.53		Brown silty clayey fine to medium SAND.
▼ 2.50							
				2.90	89.73		End of Pit at 2.90m

Remarks: 1. Complete. 2. Slow water ingress encountered at 2.50m bgl.

Stability: Unstable between 0.40m and 2.90m bgl.

Trial Pit Log

TrialPit No: TP305
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388436.00 - 406320.00 Level: 92.76	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.30	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	92.71		MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, angular to sub-angular of mudstone and limestone.
				0.10	92.66		MADE GROUND: Brown grey gravel. Gravel is fine to coarse, angular to sub-angular of limestone.
	0.50	ES					MADE GROUND: Dark brown gravelly fine to medium sand with frequent cobbles. Gravel is fine to coarse, angular to sub-angular of brick, mudstone, sandstone and concrete with rare ceramic fragments. Cobbles are angular to sub-angular of concrete.
				1.80	90.96		MADE GROUND: Soft dark brown slightly gravelly sandy clay. Gravel is fine to coarse, angular to sub-angular of mudstone and brick.
	1.90	HVP	23				
				2.00	90.76		Brown very gravelly fine to medium SAND. Gravel is fine to coarse, sub-rounded to rounded of mudstone and sandstone.
▼ 2.20	2.20	ES					
				2.30	90.46		End of Pit at 2.30m

Remarks: 1. Terminated at 2.30m bgl due to side wall collapse from 0.30m to 2.30m bgl. 2. Fast water ingress encountered at 2.20m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP306
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388500.00 - 406318.00 Level: 96.91	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.90	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	96.71		Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
	0.80	ES					Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
	1.20	B		1.60	95.31		Brown gravelly fine to medium SAND with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
				2.90	94.01		End of Pit at 2.90m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP307
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388532.00 - 406334.00 Level: 96.77	Date 11/03/2021
Location: Middleton		Dimensions (m): Depth 2.90 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
				0.30	96.47		Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				1.20	95.57		Dark brown clayey gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
	1.50	ES		1.40	95.37		Brown gravelly fine to medium SAND with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
				2.90	93.87		End of Pit at 2.90m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP308
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388501.00 - 406360.00 Level: 97.24	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 3.20	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	97.04		Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
				1.50	95.74		Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
	2.00	ES		3.20	94.04		Brown gravelly fine to medium SAND with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
							End of Pit at 3.20m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP309
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388484.00 - 406347.00 Level: 96.92	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 3.00	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	96.72		Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
	0.60	ES		1.60	95.32		Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				3.00	93.92		Brown gravelly fine to medium SAND with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
							End of Pit at 3.00m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP310
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388468.00 - 406370.00 Level: 97.23	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.90	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	97.03		Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
	0.90	ES		1.40	95.83		Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				1.60	95.63		Dark brown clayey gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				2.90	94.33		Brown gravelly fine to medium SAND with occasional cobble and clay pocket at 2.50m bgl. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
							End of Pit at 2.90m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP311
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388472.00 - 406405.00 Level: 97.57	Date 11/03/2021
Location: Middleton		Dimensions (m): Depth 2.90 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	97.37		Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
	1.50	ES		1.50	96.07		Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				2.90	94.67		Brown gravelly fine to medium SAND with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
							End of Pit at 2.90m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP312
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388498.00 - 406424.00 Level: 98.31	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 3.20	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	98.11		Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
							Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
	1.00	ES		0.90	97.41		Red brown slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				3.20	95.11		End of Pit at 3.20m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP313
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388528.00 - 406451.00 Level: 98.63	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 3.00	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10	ES		0.20	98.43		Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
	0.60	ES					Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
	1.70	D		1.60	97.03		
	1.70	HVP	99	1.80	96.83		Stiff high strength brown slightly silty CLAY.
	2.00	B					Red brown slightly silty fine to medium SAND.
				3.00	95.63		End of Pit at 3.00m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP314
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388552.00 - 406419.00 Level: 98.48	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 2.20	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	98.28		Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
				0.90	97.58		Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
	2.10	ES		2.00	96.48		Light brown slightly gravelly fine to medium SAND with occasional clay pockets. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				2.20	96.28		Firm brown silty CLAY.
							End of Pit at 2.20m

Remarks: Terminated at 2.20m bgl due to side wall collapse between 0.20m and 2.00m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP315
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388568.00 - 406381.00 Level: 97.85	Date 11/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 3.00	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	97.65		MADE GROUND: Dark brown sandy clay with frequent rootlets and rare foil packet. (Topsoil)
				0.50	97.35		MADE GROUND: Brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of mudstone and sandstone. (Land drain encountered at 0.40m bgl)
	0.70	ES					Brown gravelly fine to medium SAND with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
				3.00	94.85		End of Pit at 3.00m

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Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP316
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388554.00 - 406361.00 Level: 97.18	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 3.10	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	96.98		Dark brown sandy CLAY with frequent rootlets. (TOPSOIL)
	0.40	ES		0.70	96.48		Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				1.00	96.18		Grey brown gravelly clayey fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				3.10	94.08		Brown gravelly fine to medium SAND with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
							End of Pit at 3.10m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP317
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388533.00 - 406397.00 Level: 98.01	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 2.90	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	97.81		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
	0.25	ES		0.30	97.71		MADE GROUND: Dark brown slightly sandy gravel. Gravel is fine to coarse, angular to sub-angular of mudstone and limestone.
	0.50	ES					Red brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				0.90	97.11		Brown gravelly fine to medium SAND with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
	1.50	B					
				2.90	95.11		End of Pit at 2.90m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP318
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388506.00 - 406388.00 Level: 97.68	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 3.50	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	97.48		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
	0.50	ES		0.60	97.08		MADE GROUND: Red brown slightly clayey slightly gravelly fine to medium sand. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone with rare timber.
				2.30	95.38		Brown gravelly fine to medium SAND with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Cobbles are sub-angular to sub-rounded of mudstone and sandstone.
				3.50	94.18		Brown very silty fine to medium SAND.
							End of Pit at 3.50m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP319
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388644.00 - 406308.00 Level: 97.89	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 3.30	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.30	97.59		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
	1.00 1.00	B ES		3.30	94.59		MADE GROUND: Dark brown clayey fine to medium sand with frequent cobbles and occasional boulders. Gravel is fine to coarse, angular to sub-angular of brick, concrete, mudstone and sandstone. Cobbles and boulders are angular to sub-angular of concrete. End of Pit at 3.30m

Remarks: Complete.

Stability: Unstable between 2.10m and 3.30m bgl.

Trial Pit Log

TrialPit No: TP320
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388625.00 - 406293.00 Level: 97.83	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 3.50	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	97.63		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
				0.90	96.93		MADE GROUND: Orange brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick, sandstone and concrete.
	1.50	ES		3.50	94.33		MADE GROUND: Dark brown clayey gravelly fine to medium sand with occasional cobbles. Gravel is fine to coarse, angular to sub-angular of mudstone, sandstone and brick with rare ceramic fragments. Cobbles are angular to sub-angular of sandstone and concrete.
							End of Pit at 3.50m

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Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP321
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388594.00 - 406279.00 Level: 97.44	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.30	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	97.24		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
	2.10	ES		2.30	95.14		MADE GROUND: Dark brown clayey gravelly fine to medium sand with occasional cobbles. Gravel is fine to coarse, angular to sub-angular of mudstone, sandstone and brick with rare ceramic fragments and rare metal at 2.20m bgl. Cobbles are angular to sub-angular of sandstone and concrete. (Concrete obstruction at 2.00m bgl) End of Pit at 2.30m

Remarks: 1. Terminated at 2.30m bgl due to side wall collapse from 0.60m to 2.30m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP322
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388566.00 - 406270.00 Level: 97.17	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 3.00	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	96.87		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
	0.30	ES					
				0.60	96.57		MADE GROUND: Light brown clayey gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick and sandstone with thick metal coiled wire at 0.40m bgl.
							MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick, clinker and concrete with rare ceramic fragments.
				2.10	95.07		Dark brown gravelly fine to medium SAND with occasional clay pockets. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
	2.20	ES					
				3.00	94.17		End of Pit at 3.00m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP323
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388540.00 - 406273.00 Level: 96.69	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.50	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	96.64		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
	0.80	ES					MADE GROUND: Dark brown clayey gravelly fine to medium sand with occasional cobbles. Gravel is fine to coarse, angular to sub-angular of mudstone, sandstone and brick with rare ceramic fragments. Cobbles are angular to sub-angular of sandstone and concrete.
				1.00	95.69		MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of mudstone, sandstone, brick, concrete with rare ceramic fragments, timber, metal barrel and potential asbestos lagging.
	2.50	ES		2.50	94.19		End of Pit at 2.50m

Remarks: 1. Terminated at 2.50m bgl due to potential ACM at 2.40m bgl.

Stability: Stable.

Trial Pit Log

TrialPit No: TP324
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388612.00 - 406346.00 Level: 98.12	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.80	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	97.92		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
▼ 0.40				0.40	97.72		MADE GROUND: Dark brown clayey gravelly fine to medium sand with occasional cobbles. Gravel is fine to coarse, angular to sub-angular of mudstone, sandstone and brick with rare ceramic fragments. Cobbles are angular to sub-angular of sandstone and concrete.
							MADE GROUND: Grey sandy gravel. Gravel is fine to coarse, angular to sub-angular of limestone, sandstone with rare metal wire.
				1.60	96.52		Orange brown gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
	2.00	ES					
				2.80	95.32		End of Pit at 2.80m

Remarks: 1. Complete. 2. Concrete obstruction at 0.60m bgl. 3. Slow water seepage encountered at 0.40m bgl.

Stability: Stable.

Trial Pit Log

TrialPit No: TP325
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388582.00 - 406336.00 Level: 97.51	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 0.60	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	97.46		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
	0.30	ES					MADE GROUND: Dark brown clayey gravelly fine to medium sand with occasional cobbles. Gravel is fine to coarse, angular to sub-angular of mudstone, sandstone and brick with rare ceramic fragments. Cobbles are angular to sub-angular of sandstone and concrete.
	0.50	ES		0.40	97.11		
				0.60	96.91		MADE GROUND: Grey sandy gravel. Gravel is fine to coarse, angular to sub-angular of limestone and sandstone. (concrete obstruction at 0.60m bgl)
							End of Pit at 0.60m

Remarks: 1. Terminated at 0.60m bgl on concrete slab.

Stability: Stable.

Trial Pit Log

TrialPit No: TP326
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388547.00 - 406318.00 Level: 97.17	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 2.60	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	97.07		MADE GROUND: Dark brown sandy clay with frequent rootlets. (Topsoil)
	0.30	ES					MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick with rare ceramic fragments.
				0.50	96.67		
	1.00	ES					Orange brown gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
				2.60	94.57		End of Pit at 2.60m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP327
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388491.00 - 406275.00 Level: 94.57	Date 12/03/2021
Location: Middleton		Dimensions (m): Depth 2.80 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	94.47		MADE GROUND: Brown sandy clay with frequent rootlets.
	0.70	ES					MADE GROUND: Brown gravelly fine to medium sand with occasional cobbles and rare boulders. Gravel is fine to coarse, angular to sub-angular of brick, concrete, mudstone, sandstone with rare plastic bags, ceramic fragments and metal rods. Cobbles and boulders are angular to sub-angular of sandstone and concrete.
	2.00	ES					
				2.80	91.77		End of Pit at 2.80m

Remarks: Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP328
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388503.00 - 406272.00 Level: 93.62	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 3.20	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	93.52		MADE GROUND: Dark brown sandy clay with frequent rootlets and rare roots.
▼ 0.50	0.40	ES					MADE GROUND: Dark brown clayey gravelly fine to medium sand with occasional cobbles. Gravel is fine to coarse, angular to sub-angular of mudstone, sandstone and brick with rare ceramic fragments. Cobbles are angular to sub-angular of sandstone and concrete.
				1.70	91.92		Brown very silty fine to medium SAND with frequent organic clay pockets.
	2.00	ES					
				3.20	90.42		End of Pit at 3.20m

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Remarks: 1. Complete. 2. Slow water seepage encountered at 0.50m bgl.

Stability: Stable.

Trial Pit Log

TrialPit No: TP329
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388464.00 - 406293.00 Level: 92.92	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.05	92.87		MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, angular to sub-angular of mudstone and limestone.
				0.20	92.72		MADE GROUND: Brown grey gravel. Gravel is fine to coarse, angular to sub-angular of limestone.
	1.30	ES					MADE GROUND: Dark brown gravelly fine to medium sand with frequent cobbles and boulders. Gravel is fine to coarse, angular to sub-angular of brick, mudstone and sandstone with rare ceramic and timber. Cobbles and boulders are angular to sub-angular of sandstone.
▼ 2.30				2.40	90.52		End of Pit at 2.40m

Remarks: 1. Terminated at 2.40m bgl due to side wall collapse from 0.50m bgl to 2.40m bgl. 2. Water strike encountered at 2.30m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP330
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388432.00 - 406304.00 Level: 92.60	Date 12/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.80	Scale 1:24
Client: Kellen Homes			Logged V. Wilkinson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	92.50		MADE GROUND: Asphalt.
				0.20	92.40		MADE GROUND: Brown grey gravel. Gravel is fine to coarse, angular to sub-angular of limestone.
	0.30	ES					MADE GROUNDL Dark brown very gravelly fine to medium sand with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded of brick, concrete, sandstone, mudstone with rare ceramic. Cobbles are angular to sub-angular of concrete and sandstone.
	1.50	B					
				2.30	90.30		
▼ 2.40	2.50	ES					Firm medium strength dark brown slightly gravelly sandy CLAY with occasional pockets of organic matter. Gravel is fine to coarse, angular to sub-angular of mudstone and sandstone.
	2.50	HVP	54.				
	2.70	HVP	51.				
				2.80	89.80		End of Pit at 2.80m

Remarks: 1. Terminated at 2.80m bgl due to rapid water ingress at 2.40m bgl.

Stability: Unstable between 0.50m and 2.20m bgl.

Trial Pit Log

TrialPit No: TP331
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388656.00 - 406315.00 Level: 97.88	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES		0.30	97.58		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	1.00	ES					MADE GROUND: Dark brown clayey gravelly fine to coarse sand with cobbles and boulders. Gravel is fine to coarse subangular to subrounded of brick, concrete, sandstone, plastic and metal. Cobbles and boulders are subangular of brick and concrete.
				2.60	95.28		End of Pit at 2.60m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP332
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388656.00 - 406348.00 Level: 98.18	Date 23/03/2021
Location: Middleton		Dimensions (m): Depth 2.50 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	97.88		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	1.50	ES		2.20	95.98		MADE GROUND: Dark brown clayey gravelly fine to coarse sand with cobbles and boulders. Gravel is fine to coarse subangular to subrounded of brick, concrete, sandstone, plastic, timber and metal. Cobbles and boulders are subangular of brick and concrete.
				2.50	95.68		Yellowish brown gravelly fine to medium SAND. Gravel is fine to medium subrounded of sandstone and mudstone.
							End of Pit at 2.50m

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Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP333
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388643.00 - 406375.00 Level: 98.11	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	97.91		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	0.50	ES		0.60	97.51		MADE GROUND: Dark brown clayey gravelly fine to coarse sand with cobbles and boulders. Gravel is fine to coarse subangular to subrounded of brick, concrete, sandstone, plastic, timber and metal. Cobbles and boulders are subangular of brick and concrete.
				0.70	97.41		MADE GROUND: Concrete (possible boulder).
	1.20	ES					Orangish brown gravelly fine to medium SAND. Gravel is fine to medium subangular to subrounded of mudstone and sandstone.
	1.50	B					
				2.40	95.71		End of Pit at 2.40m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP334
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388631.00 - 406301.00 Level: 97.76	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 1.80	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.40	97.36		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	1.00 1.00	B ES					MADE GROUND: Dark brown clayey gravelly fine to coarse sand. Gravel is fine to coarse subangular to subrounded of brick, concrete, sandstone, plastic and metal.
				1.80	95.96		End of Pit at 1.80m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP335
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388628.00 - 406361.00 Level: 98.20	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.20	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	98.00		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	1.00	ES					MADE GROUND: Dark brown clayey gravelly fine to coarse sand with cobbles and boulders. Gravel is fine to coarse subangular to subrounded of brick, concrete, sandstone, plastic, timber and metal. Cobbles and boulders are subangular of brick and concrete.
				1.70	96.50		Orangish brown gravelly fine to medium SAND. Gravel is fine to medium subangular to subrounded of mudstone and sandstone.
				2.20	96.00		End of Pit at 2.20m

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Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP336
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388611.00 - 406358.00 Level: 97.70	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	97.50		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
				0.50	97.20		MADE GROUND: Orangish brown clayey gravelly fine to medium sand. Gravel is fine to medium subangular to subrounded of brick, mudstone and sandstone.
	0.60	ES					MADE GROUND: Brownish grey sandy fine to coarse gravel. Gravel is fine to coarse subangular of mudstone, brick, concrete and asphalt. Cobbles and boulders are subangular of brick and concrete.
				1.80	95.90		Orangish brown gravelly fine to medium SAND. Gravel is fine to medium subangular to subrounded of mudstone and sandstone.
	2.00	ES					
				2.40	95.30		End of Pit at 2.40m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP337
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388596.00 - 406464.00 Level: 103.43	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.50	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.30	103.13		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	0.80	ES					Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
	1.00	B		2.50	100.93		End of Pit at 2.50m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP338
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388649.00 - 406427.00 Level: 98.76	Date 23/03/2021
Location: Middleton		Dimensions (m): Depth 2.00 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	98.46		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	1.00	ES					Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
				2.00	96.76		End of Pit at 2.00m

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Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP339
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388628.00 - 406437.00 Level: 99.31	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	99.01		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
				1.70	97.61		Greyish brown gravelly very silty fine to coarse SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
				2.40	96.91		Orangish brown gravelly fine to medium SAND. Gravel is fine to medium subangular to subrounded of mudstone and sandstone.
							End of Pit at 2.40m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP340
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388604.00 - 406426.00 Level: 99.06	Date 23/03/2021
Location: Middleton		Dimensions (m): Depth 0.20 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	98.86		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
							End of Pit at 0.20m

Remarks: 1. Terminated at 0.20m bgl due to exposed service (redundant).

Stability: Stable

Trial Pit Log

TrialPit No: TP341
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388607.00 - 406386.00 Level: 97.93	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 2.10	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	97.73		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
				0.30	97.63		MADE GROUND: Brown fine to medium silty sand.
	0.50	ES		0.60	97.33		MADE GROUND: Brown sandy gravel with cobbles. Gravel is fine to coarse subangular of brick, mudstone, concrete and asphalt. Cobbles are subangular of brick and concrete.
	1.00	ES					Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
				2.10	95.83		End of Pit at 2.10m

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Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP342
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388583.00 - 406395.00 Level: 98.10	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	97.80		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	1.00 1.00	B ES		1.50	96.60		Reddish brown gravelly fine to coarse SAND. Gravel is fine to coarse subrounded of mudstone.
				2.40	95.70		Reddish brown slightly clayey silty fine to medium SAND with cobbles and boulders. Gravel is fine to coarse subrounded of mudstone and sandstone. Cobbles and boulders are subrounded of sandstone.
							End of Pit at 2.40m

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Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP343
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388596.00 - 406449.00 Level: 103.66	Date 23/03/2021
Location: Middleton		Dimensions (m): Depth 2.40, 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.50	103.16		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	2.00	ES		2.40	101.26		Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
							End of Pit at 2.40m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP344
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388563.00 - 406434.00 Level: 98.90	Date 23/03/2021
Location: Middleton		Dimensions (m): Depth 2.10 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.50	98.40		MADE GROUND: Dark brown slightly gravelly fine to medium sand. Gravel is fine to medium subrounded of mudstone. (Topsoil) (Land drain encountered at 0.5m bgl.)
	1.00	ES					Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
				2.10	96.80		End of Pit at 2.10m

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Remarks: 1. Complete. 2. Land drain encountered at 0.50m bgl (no water present).

Stability: Stable

Trial Pit Log

TrialPit No: TP345
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388564.00 - 406452.00 Level: 99.22	Date 23/03/2021
Location: Middleton		Dimensions (m): Depth 2.00 (2.00 × 0.60)	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	98.92		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	1.00	B		2.00	97.22		Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone, sandstone and coal traces.
							End of Pit at 2.00m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP346
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388539.00 - 406450.00 Level: 99.03	Date 23/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.30	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20	98.83		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
							Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
				2.30	96.73		End of Pit at 2.30m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP347
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388599.00 - 406294.00 Level: 97.79	Date 24/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	97.49		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	0.60	ES					MADE GROUND: Dark brown clayey gravelly fine to medium sand with cobbles and boulders. Gravel is fine to coarse subangular to subrounded of brick, concrete, asphalt, sandstone, plastic, timber and metal. Cobbles and boulders are subangular of brick and concrete. Tree stumps/roots encountered at circa 2.00m bgl.
				2.40	95.39		End of Pit at 2.40m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP348
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388615.00 - 406304.00 Level: 98.04	Date 24/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.50	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	97.74		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	0.80	B					MADE GROUND: Dark brown clayey gravelly fine to medium sand with cobbles and boulders. Gravel is fine to coarse subangular to subrounded of brick, concrete, asphalt, sandstone, plastic, timber and metal. Cobbles and boulders are subangular of brick and concrete. Hydrocarbon odour encountered between 1.00m bgl and 2.00m bgl.
	1.00	ES					
				2.50	95.54		End of Pit at 2.50m

Remarks: 1. Complete. 2. Hydrocarbon odour encountered between 1.00m bgl and 2.00m bgl.

Stability: Stable

Trial Pit Log

TrialPit No: TP349
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388632.00 - 406312.00 Level: 98.18	Date 24/03/2021
Location: Middleton		Dimensions (m): Depth 2.00, 0.60 x 2.00	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	97.88		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	1.50	ES		2.00	96.18		MADE GROUND: Dark brown clayey gravelly fine to medium sand with cobbles and boulders. Gravel is fine to coarse subangular to subrounded of brick, concrete, asphalt, sandstone, plastic, timber and metal. Cobbles and boulders are subangular of brick and concrete. Pockets of brown sandy clay.
							End of Pit at 2.00m

1
2
3
4
5

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP350
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388661.00 - 406295.00 Level: 97.24	Date 24/03/2021
Location: Middleton		Dimensions (m): 2.00 x 1.00 Depth 1.90	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	96.94		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	1.00	ES					MADE GROUND: Dark brown clayey gravelly fine to coarse sand with cobbles and boulders. Gravel is fine to coarse subangular to subrounded of brick, concrete and sandstone. Cobbles and boulders are subangular of brick and concrete. Two rubber tyres encountered.
				1.90	95.34		End of Pit at 1.90m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP351
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388630.00 - 406340.00 Level: 98.32	Date 24/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.20	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	98.02		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	1.00 1.00	B ES					MADE GROUND: Dark brown clayey gravelly fine to coarse sand with cobbles and boulders. Gravel is fine to coarse subangular to subrounded of brick, concrete, sandstone, plastic and metal. Cobbles and boulders are subangular of brick and concrete.
				2.20	96.12		End of Pit at 2.20m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP352
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388600.00 - 406329.00 Level: 97.97	Date 24/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.30	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	97.67		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
	1.00	ES					MADE GROUND: Dark brown clayey gravelly fine to coarse sand. Gravel is fine to coarse subangular to subrounded of brick, concrete, sandstone, asphalt and metal.
				1.60	96.37		Orangish brown gravelly fine to medium SAND. Gravel is fine to medium subangular to subrounded of mudstone and sandstone.
	2.00	ES					
				2.30	95.67		End of Pit at 2.30m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP353
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388529.00 - 406367.00 Level: 97.52	Date 24/03/2021
Location: Middleton		Dimensions (m): Depth 1.80 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.35	97.17		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	1.00	ES		1.30	96.22		Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
				1.80	95.72		Yellowish brown gravelly fine to medium SAND. Gravel is fine to medium subrounded of sandstone and mudstone.
							End of Pit at 1.80m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP354
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388513.00 - 406414.00 Level: 98.17	Date 24/03/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 1.80	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES		0.40	97.77		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	1.50	ES		1.80	96.37		Yellowish brown gravelly fine to medium SAND. Gravel is fine to medium subrounded of sandstone and mudstone.
							End of Pit at 1.80m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP355
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388620.00 - 406469.00 Level: 103.54	Date 24/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.20	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30	ES		0.45	103.09		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	1.20 1.20	B ES		2.20	101.34		Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone. End of Pit at 2.20m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP356
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388569.00 - 406471.00 Level: 103.00	Date 24/03/2021
Location: Middleton		Dimensions (m): Depth 1.80 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	102.70		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	1.00	ES		1.80	101.20		Yellowish brown gravelly fine to medium SAND. Gravel is fine to medium subrounded of sandstone and mudstone.
							End of Pit at 1.80m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP357
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388581.00 - 406415.00 Level: 98.64	Date 24/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 1.60	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	98.34		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
							Dark brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
	1.00	ES		0.90	97.74		Yellowish brown gravelly fine to medium SAND. Gravel is fine to medium subrounded of sandstone and mudstone.
				1.60	97.04		End of Pit at 1.60m

Remarks: Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP358
Sheet 1 of 1

Project Name: Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388553.00 - 406459.00 Level: 99.40	Date 24/03/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 1.90	Scale 1:24
Client: Kellen Homes			Logged N Dawson

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	99.10		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
	1.50	ES		1.90	97.50		Reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
							End of Pit at 1.90m

Remarks: Complete.

Stability: Stable

Borehole Log

Borehole No. **WS301**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388404E - 406343N	Hole Type WS
Location:	Middleton		Level:	92.67 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	11/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.50	92.67		MADE GROUND: Dark brown slightly clayey gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick, mudstone, sandstone and rare clinker.
		0.70	ES					MADE GROUND: Dark brown sandy gravel. Gravel is fine to coarse, angular to sub-angular of clinker and brick. Becoming loose a 2.00m bgl.
		1.00	SPT	N=12 (3,3/4,3,3,2)				
		2.00	SPT	N=7 (1,2/2,1,2,2)				
					2.60	92.17		Firm brown silty CLAY.
		2.90	D		2.80	90.07		Dark brown slightly gravelly pseudo fibrous PEAT. Gravel is fine to medium angular of coal.
		2.90	ES		3.00	89.87		No recovery: Presumed Brown slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
		3.00	SPT	N=10 (2,1/2,2,3,3)				
		4.00	SPT	N=20 (5,5/4,4,5,7)	4.00	89.67		Medium dense brown slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
					4.45	88.67		End of Borehole at 4.45m

1 2 3 4 5 6 7 8 9 10

Remarks

1. Terminated at 4.45m bgl due to collapse from 4.45m to 2.00m bgl. 2. Monitoring well installed. (Response zone at 0.50m-2.00m bgl.)

Borehole Log

Borehole No. **WS302**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords: 388475E - 406285N
Location:	Middleton		Level:
Client:	Kellen Homes		Dates: 11/03/2021

Hole Type: WS

Scale: 1:50

Logged By: V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.40	ES					Stiff medium strength dark brown slightly gravelly sandy CLAY with rare organic matter. Gravel is fine to medium, angular to sub-angular of mudstone.
		1.00	SPT	N=10 (3,3/3,3,2,2)				
		2.00	ES		2.00			Loose brown slightly gravelly fine to medium SAND. Gravel is fine to coarse, angular to sub-angular of mudstone.
		2.00	SPT	N=5 (0,0/1,1,1,2)				
		3.00	SPT	N=9 (2,2/2,2,3,2)	3.00			No recovery: Presumed loose brown slightly gravelly fine to medium SAND. Gravel is fine to coarse angular to subangular of mudstone. Becoming medium dense at 4.00m bgl.
		4.00	SPT	N=13 (2,5/4,3,3,3)				
					4.45			End of Borehole at 4.45m

Remarks

1. Complete. 2. No recovery between 3.00m to 4.45m bgl. 3. Monitoring well installed. (Response zone at 2.00m-3.00m bgl).

Borehole Log

Borehole No. **WS303**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388411E - 406293N	Hole Type WS
Location:	Middleton		Level:	92.70 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	11/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	92.70		MADE GROUND: Asphalt.
					0.20	92.60		MADE GROUND: Brown grey gravel. Gravel is fine to coarse, angular to sub-angular of limestone.
		1.00	SPT	N=9 (2,2/2,2,3,2)				MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick , mudstone and sandstone.
					1.50	92.50		MADE GROUND: Brown gravelly clay. Gravel is fine to coarse, angular to sub-angular of rare brick and frequent sandstone.
	2.10	2.00	SPT	N=7 (2,1/1,1,2,3)	2.00	91.20		Loose brown gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
					2.30	90.70		Dark brown silty fine to medium SAND with rare organic matter.
		3.00	SPT	N=10 (4,4/4,2,2,2)	3.00	90.40		Loose brown gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. (Limited recovery)
		4.00	SPT	N=25 (4,3/2,4,7,12)	4.00	89.70		No recovery: Presumed medium dense brown gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
		5.00	SPT	N=35 (5,7/9,8,9,9)				
					5.45	88.70		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 2.10m bgl. 3. Monitoring well installed. (Response zone at 2.00m-3.00m bgl).

Borehole Log

Borehole No. **WS304**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388457E - 406306N	Hole Type WS
Location:	Middleton		Level:	92.87 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	11/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	92.87		MADE GROUND: Black slightly sandy gravel. Gravel is fine to coarse, angular to sub-angular of mudstone and limestone.
					0.20	92.77		MADE GROUND: Brown grey gravel. Gravel is fine to coarse, angular to sub-angular of limestone.
		1.00	SPT	N=14 (2,3/4,4,3,3)				MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick and sandstone.
					1.10	92.67		MADE GROUND: Light brown clayey gravel. Gravel is fine to coarse, angular to sub-angular of sandstone.
					1.70	91.77		MADE GROUND: Dark brown gravelly clay with frequent organic matter. Gravel is fine to coarse, angular to sub-angular of brick and mudstone. (reworked clay)
		1.80	ES					
		2.00	SPT	N=17 (3,3/3,4,4,6)	2.00	91.17		Medium dense dark brown slightly gravelly clayey fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
					2.50	90.87		Medium dense brown slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
		3.00	SPT	N=12 (3,2/3,2,3,4)				
		4.00	ES					
		4.00	SPT	N=20 (10,6/5,5,4,6)				
					4.45	90.37		End of Borehole at 4.45m

Remarks

1. Terminated at 4.45m bgl due to collapse from 4.45m to 1.50m bgl. 2. Monitoring well installed. (Response zone at 0.50m-1.50m bgl).

Borehole Log

Borehole No. **WS305**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388383E - 406337N	Hole Type WS
Location:	Middleton		Level:	92.61 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	11/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.50	92.61		MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick, mudstone, coal and sandstone.
		1.00	SPT	N=9 (2,2/2,3,2,2)				MADE GROUND: Grey brown gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of clinker, brick and sandstone.
		2.00	SPT	N=5 (2,3/2,1,1,1)	2.10	92.11		MADE GROUND: Dark brown clayey gravelly fine to medium sand with rare organic matter. Gravel is fine to coarse, angular to sub-angular of brick.
		3.00 3.00	ES SPT	N=6 (2,2/1,2,1,2)	3.45	90.51		End of Borehole at 3.45m

Remarks

1. Terminated due to collapse from 3.45m to 1.00m bgl.

Borehole Log

Borehole No. **WS306**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388518E - 406328N	Hole Type WS
Location:	Middleton		Level:	96.79 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	12/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	96.79		MADE GROUND: Dark brown sandy clay with frequent roots. MADE GROUND: Brown gravelly fine to medium sand. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
		1.00	SPT	N=17 (3,4/4,5,4,4)	1.10	96.59		MADE GROUND: Brown clayey gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-rounded of brick, mudstone and sandstone.
		1.40	ES		1.50	95.69		Dense orange brown gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
		2.00	ES					
		2.00	SPT	N=34 (4,6/8,8,9,9)				
	3.00	3.00	SPT	N=10 (2,2/2,3,2,3)	3.00	95.29		Loose brown slightly gravelly silty fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Becoming medium dense at 4.00m bgl.
		4.00	SPT	N=20 (3,3/4,5,6,5)				
		5.00	SPT	N=34 (4,5/6,8,10,10)				
					5.45	93.79		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 3.00m bgl. 3. Monitoring well installed. (Response zone at 1.50m-2.50m bgl).

Borehole Log

Borehole No. **WS307**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388588E - 406301N	Hole Type WS
Location:	Middleton		Level:	97.48 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	12/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	97.48		MADE GROUND: Dark brown sandy clay with frequent roots. MADE GROUND: Dark brown gravelly clayey fine to medium sand. Gravel is fine to coarse, angular to sub-angular of mudstone and sandstone.
		1.00	SPT	N=12 (3,3/2,4,3,3)	1.00	97.38		MADE GROUND: Dark brown slightly gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick, mudstone and sandstone.
		2.00	SPT	N=8 (2,1/2,2,2,2)				
		3.00	SPT	N=18 (2,4/4,4,5,5)				
					3.50	96.48		Medium dense light brown slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone. (Becoming orange brown at 4.20m bgl)
		4.00 4.00 4.20	ES SPT ES	N=21 (3,5/5,5,5,6)				
		5.00	SPT	N=18 (4,4/5,4,4,5)				
					5.45	93.98		End of Borehole at 5.45m

Remarks

1. Complete. 2. Monitoring well installed. (Response zone at 1.00m-3.00m bgl).

Borehole Log

Borehole No. **WS308**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388459E - 406382N	Hole Type WS
Location:	Middleton		Level:	97.25 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	12/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.10	ES		0.20	97.25		Dark brown sandy CLAY with frequent roots.
		1.00	SPT	N=15 (2,3/3,4,4,4)				Medium dense brown slightly silty slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. (no recovery between 1.00m and 2.00m bgl)
		2.00	SPT	N=8 (1,1/2,2,2,2)	2.00	97.05		Loose brown slightly gravelly clayey fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone.
	3.00	3.00	SPT	N=6 (1,2/1,1,2,2)	3.00	95.25		Loose red brown silty fine to medium SAND.
		4.00 4.00	ES SPT	N=10 (2,2/3,3,2,2)				
					4.45	94.25		End of Borehole at 4.45m

Remarks

1. Terminated at 4.45m bgl due to collapse from 4.45m to 3.00m bgl. 2. Monitoring well installed. (Response zone a 1.00m-3.00m bgl). 3. Water strike encountered at 3.00m bgl.

Borehole Log

Borehole No. **WS309**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388560E - 406330N	Hole Type WS
Location:	Middleton		Level:	97.20 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	12/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	97.20		MADE GROUND: Dark brown sandy clay with frequent roots.
		0.50	ES					MADE GROUND: Dark brown clayey gravelly fine to medium sand. Gravel is fine to coarse, angular to sub-angular of mudstone, sandstone, brick and concrete with rare coal fragments.
		1.00	SPT	N=11 (2,2/3,2,3,3)				
					1.30	97.10		Medium dense orange brown gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone.
	2.00	2.00	SPT	N=21 (3,4/4,6,5,6)	2.00	95.90		Medium dense red brown very silty fine to medium SAND.
		2.50	ES					
		3.00	SPT	N=24 (2,5/6,5,6,7)				
		4.00	SPT	N=24 (3,6/6,6,6,6)				
		5.00	SPT	N=27 (4,5/7,6,7,7)				
					5.45	95.20		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 2.00m bgl.

Borehole Log

Borehole No. **WS310**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388479E - 406332N	Hole Type WS
Location:	Middleton		Level:	96.65 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	12/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	96.65		Dark brown sandy CLAY with frequent roots. (TOPSOIL)
		0.50	ES					Medium dense red brown slightly silty slightly gravelly fine to medium SAND. Gravel is fine to coarse, angular to sub-rounded of mudstone and sandstone.
		1.00	SPT	N=13 (2,4/3,3,4,3)				
					1.80	96.45		
	▼ 2.00	2.00	ES		2.00	94.85		Dark brown slightly clayey gravelly fine to medium SAND. Gravel is fine to coarse, angular to sub-angular to sub-rounded of mudstone, sandstone and coal.
		2.00	SPT	N=46 (8,11/13,10,11,12)				Dense red brown slightly gravelly fine to medium SAND. Gravel is fine to coarse, sub-angular to sub-rounded of mudstone and sandstone. Becoming very dense at 2.80m bgl.
		2.80	SPT	N=63 (3,8/15,15,16,17)				
					3.10	94.65		End of Borehole at 3.10m

Remarks

1. Terminated at 3.10m bgl due to refusal on very dense sand. 2. Water strike encountered at 2.00m bgl.

Borehole Log

Borehole No. **WS311**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388516E - 406275N	Hole Type WS
Location:	Middleton		Level:	96.36 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	12/03/2021	Logged By V. Wilkinson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	96.36		MADE GROUND: Dark brown sandy clay with frequent roots.
		0.50	ES					MADE GROUND: Brown gravelly sandy clay. Gravel is fine to coarse, angular to sub-angular of mudstone, sandstone, coal and brick. (rare organic matter between 2.10m and 2.80m bgl.
		1.00	SPT	N=9 (1,2/2,2,2,3)				
		2.00	SPT	N=6 (1,1/1,2,2,1)	2.00	96.26		MADE GROUND: Dark brown clayey fine to medium sand. Gravel is fine to coarse, angular to sub-angular of brick and sandstone.
		3.00	SPT	N=8 (0,0/0,2,2,4)	3.00	94.36		MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to medium, angular to sub-angular of brick, mudstone and sandstone. (Limited recovery between 4.00m and 5.45m bgl)
		4.00 4.00	ES SPT	N=7 (2,2/2,1,2,2)				
		5.00	SPT	N=12 (2,3/3,2,3,4)				
					5.45	93.36		End of Borehole at 5.45m

Remarks

1. Complete. 2. Monitoring well installed. (Response zone at 1.00m-5.00m bgl).

Borehole Log

Borehole No. **WS312**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388494E - 406399N	Hole Type WS
Location:	Middleton		Level:	97.61 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	24/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.40	97.61		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
		1.00	SPT	N=16 (3,3/4,4,4,4)				Medium dense reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone, sandstone and coal traces. Band of coal encountered at 4.00 m bgl. Becoming dense from circa 4.00mbgl.
		2.00	SPT	N=27 (4,6/6,7,7,7)				
		3.00	SPT	N=32 (6,7/8,8,8,8)				
		4.00	SPT	N=36 (6,6/8,9,9,10)				
					4.45	97.21		End of Borehole at 4.45m

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Remarks

1. Incomplete. 2. Terminated at 4.45m bgl due to collapsing sands.

Borehole Log

Borehole No. **WS313**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388501E - 406433N	Hole Type WS
Location:	Middleton		Level:	98.44 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	24/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.40	98.44		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
		1.00	ES					Medium dense reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
		1.00	SPT	N=14 (3,3/3,3,4,4)				
		2.00	SPT	N=20 (2,3/5,5,5,5)				
		3.00	SPT	N=27 (3,5/6,7,7,7)				
		4.00	SPT	N=34 (3,5/7,9,9,9)				
		5.00	SPT	N=29 (4,6/6,7,8,8)				
					5.45	98.04		End of Borehole at 5.45m

Remarks

1. Complete. 2. Monitoring well installed (Response zone at 1.00m-4.00m bgl).

Borehole Log

Borehole No. **WS314**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388571E - 406428N	Hole Type WS
Location:	Middleton		Level:	98.76 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	98.76		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
		1.00 1.00	ES SPT	N=12 (3,3/3,3,3,3)				Medium dense reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone. Fragments of sandstone cobble.
		2.00	SPT	N=20 (2,4/5,5,5,5)				
		3.00	SPT	N=20 (4,5/5,5,5,5)				
		4.00	SPT	N=28 (5,6/7,7,7,7)				
	4.80	5.00	SPT	N=28 (6,6/7,7,7,7)				
					5.45	98.46		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 4.40m bgl. 3. Monitoring well installed (Response at 0.50-3.50m bgl).

Borehole Log

Borehole No. **WS315**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388548E - 406383N	Hole Type WS
Location:	Middleton		Level:	97.84 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	24/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.40	97.84		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
		1.00 1.00	ES SPT	N=23 (4,5/5,6,6,6)				Medium dense brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone. Becoming light brown with depth.
		2.00	SPT	N=12 (3,3/3,3,3,3)				
		3.00	SPT	N=19 (3,4/4,5,5,5)				
		4.00	SPT	N=30 (5,7/7,7,8,8)				
					4.45	97.44		End of Borehole at 4.45m

Remarks

1. Incomplete. 2.Terminated at 4.45m bgl due to collapsing sands. 3.Monitoring well installed (Response zone 0.50m-3.00m bgl).

Borehole Log

Borehole No. **WS316**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388597E - 406353N	Hole Type WS
Location:	Middleton		Level:	97.69 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES		0.30	97.69		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
		1.00	SPT	N=13 (1,1/1,2,2,8)				MADE GROUND: Dark brown clayey gravelly fine to coarse sand. Gravel is fine to coarse subangular to subrounded of brick, concrete, sandstone, asphalt and metal.
		1.50	ES		1.40	97.39		Brown fine to medium SAND.
		2.00	ES		1.80	96.29		Loose orangish brown gravelly fine to medium SAND. Gravel is fine to medium subangular to subrounded of mudstone and sandstone. Becoming medium dense from 3.00m bgl.
		2.00	SPT	N=8 (2,2/2,2,2,2)				
		3.00	SPT	N=16 (3,4/4,4,4,4)				
		4.00	SPT	N=23 (4,5/5,6,6,6)				
		5.00	SPT	N=23 (5,5/5,6,6,6)				
					5.45	95.89		End of Borehole at 5.45m

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Remarks

1. Complete.

Borehole Log

Borehole No. **WS317A**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388643E - 406293N	Hole Type WS
Location:	Middleton		Level:	97.61 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	97.61		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
		1.00	SPT	50 (11,12/50 for 85mm)				MADE GROUND: Dark brown clayey gravelly fine to coarse sand. Gravel is fine to coarse subangular to subrounded of brick, sandstone and concrete.
					1.25	97.31		End of Borehole at 1.25m

Remarks

1. Incomplete. 2. Terminated at 1.25m bgl due to refusal on concrete cobble.

Borehole Log

Borehole No. **WS317B**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388647E - 406298N	Hole Type WS
Location:	Middleton		Level:		Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30			MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
					0.60			MADE GROUND: Dark brown clayey gravelly fine to coarse sand. Gravel is fine to coarse subangular to subrounded of brick, sandstone and concrete.
								End of Borehole at 0.60m

Remarks

1. Incomplete. 2. Terminated at 06.0m bgl due to barrel refusal on a concrete cobble.

Borehole Log

Borehole No. **WS317C**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388652E - 406301N	Hole Type WS
Location:	Middleton		Level:		Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.90 1.00	ES SPT	N=10 (2,2/2,3,2,3)	0.30			MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil). MADE GROUND: Dark brown gravelly very clayey fine to coarse sand. Gravel is fine to coarse subangular to subrounded of brick, sandstone, asphalt and concrete. Pockets of brown sandy clay.
		2.00	SPT	N=23 (3,6/6,5,6,6)				
		3.00	SPT	N=15 (3,3/3,4,4,4)				
		3.50 3.60	ES SPT	50 (6,14/50 for 210mm)	3.75			End of Borehole at 3.75m

Remarks

1. Incomplete. 2. Terminated at 3.75m bgl due to refusal on concrete cobble. 3. Monitoring well installed (response zone at 0.50m-3.50m bgl).

Borehole Log

Borehole No. **WS318**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388654E - 406358N	Hole Type WS
Location:	Middleton		Level:	98.29 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES		0.30	98.29		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil).
		1.00	SPT	N=22 (1,3/5,6,5,6)				MADE GROUND: Dark brown clayey gravelly fine to coarse sand. Gravel is fine to coarse subangular to subrounded of brick, sandstone and concrete.
		2.00	ES		1.30	97.99		Medium dense orangish brown gravelly fine to medium SAND. Gravel is fine to medium subangular to subrounded of mudstone and sandstone.
		2.00	SPT	N=12 (2,2/3,3,3,3)				
		3.00	SPT	N=12 (2,3/3,3,3,3)				
		4.00	SPT	N=18 (3,4/4,4,5,5)				
		5.00	SPT	N=22 (3,4/5,6,5,6)				
					5.45	96.99		End of Borehole at 5.45m

Remarks

1. Complete. 2. Monitoring well installed (Response zone at 1.50m-3.50m bgl).

Borehole Log

Borehole No. **WS319**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388619E - 406368N	Hole Type WS
Location:	Middleton		Level:	97.78 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30	97.78		MADE GROUND: Dark brown slightly gravelly sandy clay with rootlets. Gravel is fine to medium subrounded of mudstone, sandstone and brick. (Topsoil). MADE GROUND: Grey sandy gravel. Gravel is fine to medium subangular of limestone and concrete.
		1.00	SPT	N=8 (2,1/2,2,2,2)	1.00	97.48		Loose orangish brown gravelly fine to medium SAND. Gravel is fine to medium subangular to subrounded of mudstone and sandstone. Becoming medium dense from 2.00m bgl.
		1.50	ES					
		2.00	SPT	N=13 (2,3/3,3,3,4)				
		3.00	SPT	N=20 (3,5/5,5,5,5)				
	3.70	4.00	SPT	N=23 (5,5/5,6,6,6)				
		5.00	SPT	N=30 (6,7/7,7,8,8)				
					5.45	96.78		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 3.70m bgl. 3. Monitoring well installed (Response at 1.50m-3.50m).

Borehole Log

Borehole No. **WS320**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388644E - 406412N	Hole Type WS
Location:	Middleton		Level:	98.57 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	24/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.40	98.57		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
		1.00	ES					Medium dense reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
		1.00	SPT	N=15 (4,4/5,5,3,2)				
		2.00	SPT	N=12 (2,2/3,3,3,3)				
		3.00	SPT	N=23 (4,5/5,6,6,6)				
		4.00	SPT	N=30 (4,6/7,7,8,8)				
					4.45	98.17		End of Borehole at 4.45m

Remarks

1. Incomplete. 2. Terminated at 4.45m bgl due to collapsing sands. 3. Monitoring well installed (Response zone at 0.50m-3.50m bgl).

Borehole Log

Borehole No. **WS321**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388618E - 406446N	Hole Type WS
Location:	Middleton		Level:	101.83 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30	101.83		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
		1.00	SPT	N=16 (3,3/4,4,4,4)				Medium dense reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
		2.00	ES					
		2.00	SPT	N=12 (3,3/3,3,3,3)				
		3.00	SPT	N=19 (4,5/4,5,5,5)				
	▼ 3.80							
		4.00	SPT	N=20 (4,5/5,5,5,5)				
		5.00	SPT	N=24 (6,6/6,6,6,6)				
					5.45	101.53		End of Borehole at 5.45m

Remarks

1. Complete. 2.Water strike encountered at 3.80m bgl.

Borehole Log

Borehole No. **WS322**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388610E - 406483N	Hole Type WS
Location:	Middleton		Level:	103.25 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	24/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES					Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
		1.00	D		0.80	103.25		
		1.00	SPT	N=22 (4,4/5,5,6,6)				Medium dense orangish brown slightly sandy silty CLAY with coal traces.
					1.60	102.45		
		2.00	SPT	N=12 (3,3/3,3,3,3)				Medium dense reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
		3.00	SPT	N=16 (3,4/4,4,4,4)				
		4.00	SPT	N=16 (3,3/4,4,4,4)				
		5.00	SPT	N=20 (5,5/5,5,5,5)				
					5.45	101.65		End of Borehole at 5.45m

Remarks

1. Complete. 2. Monitoring well installed (Response zone at 1.00m-2.50m bgl.)

Borehole Log

Borehole No. **WS323**

Sheet 1 of 1

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388582E - 406465N	Hole Type WS
Location:	Middleton		Level:	103.28 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	24/03/2021	Logged By N Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.40	103.28		Dark brown slightly gravelly fine to medium SAND. Gravel is fine to medium subrounded of mudstone. (TOPSOIL).
		1.00	SPT	N=19 (4,4/4,5,5,5)				Medium dense reddish brown slightly clayey silty fine to medium SAND. Gravel is fine to coarse subrounded of mudstone and sandstone.
		1.50	ES					
		2.00	SPT	N=12 (2,3/3,3,3,3)				
		3.00	SPT	N=16 (4,4/4,4,4,4)				
		4.00	SPT	N=20 (4,5/5,5,5,5)				
		5.00	SPT	N=23 (5,5/5,6,6,6)				
					5.45	102.88		End of Borehole at 5.45m

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Remarks

1. Complete.

Borehole Log

Borehole No. **CP301**

Sheet 1 of 2

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388414E - 406318N	Hole Type CP
Location:	Middleton		Level:	92.56 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By N. Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	92.56		MADE GROUND: Asphalt.
	▼ 0.70	1.00 1.00	B SPT	N=9 (2,2/3,2,2,2)				MADE GROUND: Loose dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and ash. (Becoming medium dense at circa 3.00m bgl).
		2.00	SPT	N=5 (2,1/1,1,2,1)				
		3.00	SPT	N=13 (1,2/4,4,2,3)				
		4.00 4.00	B SPT	N=20 (4,3/4,5,6,5)	3.80	92.36		Medium dense brown fine to medium SAND and GRAVEL.
		5.00	SPT	N=21 (5,6/7,4,5,5)	5.00	88.76		Medium dense brown fine to medium SAND with occasional GRAVEL bands.
		6.50	SPT	N=21 (4,5/5,6,5,5)				
		8.00 8.00	B SPT	N=22 (5,5/6,6,5,5)				
		9.50	SPT	N=20 (4,5/4,5,5,6)				

Remarks

1. Complete. 2. Water strike encountered at 0.70m bgl.

Borehole Log

Borehole No. **CP301** Sheet 2 of 2

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388414E - 406318N	Hole Type CP
Location:	Middleton		Level:	92.56 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By N. Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Medium dense brown fine to medium SAND with occasional GRAVEL bands.
		11.00	SPT	N=29 (7,7/6,7,8,8)				
		12.50	SPT	N=35 (9,10/8,9,9,9)				
		14.00	SPT	N=37 (10,10/9,9,9,10)				
		15.50	SPT	N=38 (9,9/8,9,10,11)				
		17.00	B		17.00	87.56		Dense brown GRAVEL with cobbles and boulders.
		17.00	SPT	N=44 (10,11/12,11,11,10)				
		18.00	SPT	50 (12,12/50 for 50mm)				
					18.70	75.56		Driving large boulder
		19.20	SPT	50 (25 for 40mm/50 for 55mm)	19.20	73.86		End of Borehole at 19.20m

Remarks

1. Complete. 2. Water strike encountered at 0.70m bgl.

Borehole Log

Borehole No. **CP302**

Sheet 1 of 3

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388527E - 406435N	Hole Type CP
Location:	Middleton		Level:	98.60 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	24/03/2021	Logged By N. Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.50	98.60		Brown sandy CLAY.
		1.00	SPT	N=9 (2,3/3,2,2,2)				Loose brown fine to medium SAND. (Becoming medium dense at circa 3.00m bgl).
		2.00	SPT	N=10 (2,3/3,2,2,3)				
		3.00	B					
		3.00	SPT	N=12 (3,2/3,3,3,3)				
		4.00	SPT	N=15 (3,4/4,4,3,4)				
		5.00	SPT	N=14 (4,5/4,3,4,3)	5.00	98.10		Medium dense brown fine to medium SAND.
		6.50	SPT	N=18 (5,4/5,5,4,4)				
		8.00	SPT	N=17 (5,4/4,4,4,5)				
					9.00	93.60		Medium dense brown fine to medium SAND and GRAVEL.

Remarks
Complete.

Borehole Log

Borehole No. **CP302** Sheet 2 of 3

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388527E - 406435N	Hole Type CP
Location:	Middleton		Level:	98.60 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	24/03/2021	Logged By N. Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.50	B					Medium dense brown fine to medium SAND and GRAVEL.
		10.50	SPT	N=31 (6,7/8,8,7,8)				
		11.00	SPT	N=35 (8,7/8,9,9,9)				
					11.80	89.60		Medium dense brown fine to medium SAND.
		12.50	SPT	N=38 (9,10/10,9,9,10)				
		14.00	SPT	N=39 (10,11/11,10,9,9)				
		15.50	SPT	N=34 (9,10/9,9,8,8)				
		17.00	SPT	N=35 (9,8/9,9,9,8)				
		18.50	SPT	N=42 (10,10/10,11,11,10)				
					19.20	86.80		Medium dense brown fine to medium SAND and GRAVEL.
		20.00	B		20.00	79.40		

Remarks
Complete.

Borehole Log

Borehole No. **CP302**

Sheet 3 of 3

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388527E - 406435N	Hole Type CP
Location:	Middleton		Level:	98.60 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	24/03/2021	Logged By N. Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	SPT	N=43 (11,10/10,11,11,11)				End of Borehole at 20.00m

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Remarks
Complete.

Borehole Log

Borehole No. **CP303**

Sheet 1 of 3

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388567E - 406278N	Hole Type CP
Location:	Middleton		Level:	96.96 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N. Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		1.00	SPT	N=10 (2,2/3,2,3,2)				MADE GROUND: Loose dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and mudstone.
		2.00	SPT	N=9 (2,2/2,3,2,2)				
		3.00 3.00	B SPT	N=10 (2,1/2,3,2,3)				
		4.00	SPT	N=6 (1,1/2,1,1,2)	4.00	96.96		Loose brown silty fine to medium SAND.
		5.00	SPT	N=8 (2,2/3,2,1,2)				
	5.50				5.80	92.96		Loose brown fine to medium SAND and GRAVEL. (Becoming medium dense at circa 6.50m bgl).
		6.50 6.50	B SPT	N=19 (4,5/4,5,5,5)				
	7.30				7.00	91.16		Brown very silty CLAY.
					7.30	89.96		Loose brown fine to medium SAND with occasional bands of clay. (Becoming medium dense at circa 11.00m bgl).
		8.00	SPT	N=9 (3,2/3,2,2,2)				
		9.50 9.50	B SPT	N=11 (3,2/3,3,3,2)				

Remarks

1. Complete. 2. Water strike encountered at 5.50m and 7.30m bgl.

Borehole Log

Borehole No. **CP303**

Sheet 2 of 3

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388567E - 406278N	Hole Type CP
Location:	Middleton		Level:	96.96 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N. Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		11.00	SPT	N=15 (3,4/4,4,3,4)				Loose brown fine to medium SAND with occasional bands of clay. (Becoming medium dense at circa 11.00m bgl).
		12.50	SPT	N=14 (4,4/4,3,4,3)				
		14.00	SPT	N=23 (6,7/3,6,7,7)				
		15.50	SPT	N=39 (8,8/9,10,10,10)	15.50	89.66		Medium dense brown fine to medium SAND with occasional bands of clay.
		17.00	SPT	N=42 (8,9/10,11,11,10)				
		18.50	SPT	N=42 (10,10/11,11,10,10)				
					19.00	81.46		Medium dense red brown slightly gravelly fine to medium SAND. Gravel is fine to coarse angular to sub-angular of mudstone and sandstone.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. Water strike encountered at 5.50m and 7.30m bgl.

Borehole Log

Borehole No. **CP303**

Sheet 3 of 3

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388567E - 406278N	Hole Type CP
Location:	Middleton		Level:	96.96 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	23/03/2021	Logged By N. Dawson

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	SPT	N=47 (10,11/12,12,11,12)				Medium dense red brown slightly gravelly fine to medium SAND. Gravel is fine to coarse angular to sub-angular of mudstone and sandstone.
					21.00	77.96		Medium dense brown fine to medium SAND and GRAVEL.
		21.50	B		21.50	75.96		End of Borehole at 21.50m
		21.50	SPT	50 (11,10/50 for 50mm)				

Remarks

1. Complete. 2. Water strike encountered at 5.50m and 7.30m bgl.

Borehole Log

Borehole No. **RB301**

Sheet 1 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388394E - 406296N	Hole Type BH
Location:	Middleton		Level:	92.54 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	92.54		MADE GROUND: Asphalt.
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and mudstone.
					5.50	92.34		Brown fine to medium SAND.

Remarks

1. Complete. 2. Loss of flush between 15.60m and 17.80m bgl.

Borehole Log

Borehole No. **RB301**

Sheet 2 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388394E - 406296N	Hole Type BH
Location:	Middleton		Level:	92.54 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					10.20	87.04		Brown fine to medium SAND.
					10.50	82.34		Light brown fine to medium SAND and GRAVEL.
								Light brown fine to medium SAND with bands of CLAY.
					15.60	82.04		Loss of flush
					17.80	76.94		Light grey MUDSTONE.
					18.90	74.74		Light grey MUDSTONE with traces of COAL.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. Loss of flush between 15.60m and 17.80m bgl.

Borehole Log

Borehole No. **RB301**

Sheet 3 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388394E - 406296N	Hole Type BH
Location:	Middleton		Level:	92.54 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light grey MUDSTONE with traces of COAL.
					21.50	73.64		Light grey MUDSTONE.
					27.40	71.04		Light grey SANDSTONE.

Remarks

1. Complete. 2. Loss of flush between 15.60m and 17.80m bgl.

Borehole Log

Borehole No. **RB301**

Sheet 4 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388394E - 406296N	Hole Type BH
Location:	Middleton		Level:	92.54 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light grey SANDSTONE.
					32.70	65.14		Light grey SANDSTONE.
					40.00	59.84		End of Borehole at 40.00m

Remarks

1. Complete. 2. Loss of flush between 15.60m and 17.80m bgl.

Borehole Log

Borehole No. **RB302**

Sheet 1 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388375E - 406332N	Hole Type BH
Location:	Middleton		Level:	92.53 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and mudstone.
					3.20	92.53		Brown fine to medium SAND and GRAVEL.

Remarks

1. Complete. 2. Loss of flush within SAND between 15.50m and 17.90m bgl. 3. No coal or voids encountered.

Borehole Log

Borehole No. **RB302**

Sheet 2 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388375E - 406332N	Hole Type BH
Location:	Middleton		Level:	92.53 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					15.50	89.33		Loosing flush in dry fine to medium SAND.
					17.90	77.03		MUDSTONE.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. Loss of flush within SAND between 15.50m and 17.90m bgl. 3. No coal or voids encountered.

Borehole Log

Borehole No. **RB302**

Sheet 3 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388375E - 406332N	Hole Type BH
Location:	Middleton		Level:	92.53 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MUDSTONE.

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Remarks

1. Complete. 2. Loss of flush within SAND between 15.50m and 17.90m bgl. 3. No coal or voids encountered.

Borehole Log

Borehole No. **RB302**

Sheet 4 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388375E - 406332N	Hole Type BH
Location:	Middleton		Level:	92.53 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MUDSTONE.
					40.00	74.63		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. Loss of flush within SAND between 15.50m and 17.90m bgl. 3. No coal or voids encountered.

Borehole Log

Borehole No. **RB303**

Sheet 1 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388410E - 406320N	Hole Type BH
Location:	Middleton		Level:	92.57 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and mudstone.
					4.10	92.57		Brown fine to medium SAND and GRAVEL.

Remarks

1. Complete. 2. No loss of flush, voids or coal encountered.

Borehole Log

Borehole No. **RB303**

Sheet 2 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388410E - 406320N	Hole Type BH
Location:	Middleton		Level:	92.57 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					19.10	88.47		Grey MUDSTONE.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. No loss of flush, voids or coal encountered.

Borehole Log

Borehole No. **RB303**

Sheet 3 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388410E - 406320N	Hole Type BH
Location:	Middleton		Level:	92.57 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey MUDSTONE.
					20.80	73.47		Grey MUDSTONE with traces of COAL.
					26.10	71.77		Grey SANDSTONE.
					28.80	66.47		Grey MUDSTONE with bands of SANDSTONE.

Remarks

1. Complete. 2. No loss of flush, voids or coal encountered.

Borehole Log

Borehole No. **RB303**

Sheet 4 of 4

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388410E - 406320N	Hole Type BH
Location:	Middleton		Level:	92.57 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey MUDSTONE with bands of SANDSTONE.
					36.30	63.77		Dark grey MUDSTONE with traces of COAL.
					37.00	56.27		Grey MUDSTONE with bands of SANDSTONE.
					40.00	55.57		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. No loss of flush, voids or coal encountered.

Borehole Log

Borehole No. **RB304**

Sheet 1 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388453E - 406296N	Hole Type BH
Location:	Middleton		Level:	92.75 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	92.75		MADE GROUND: Asphalt.
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash, brick and mudstone.
					4.60	92.55		Brown fine to medium SAND.
					8.60	88.15		Light brown fine to medium SAND and GRAVEL.
					9.10	84.15		Light brown fine to medium SAND with bands of CLAY.

Remarks
Complete.

Borehole Log

Borehole No. **RB304**

Sheet 2 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388453E - 406296N	Hole Type BH
Location:	Middleton		Level:	92.75 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND with bands of CLAY.

11 12 13 14 15 16 17 18 19 20

Remarks
Complete.

Borehole Log

Borehole No. **RB304**

Sheet 3 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388453E - 406296N	Hole Type BH
Location:	Middleton		Level:	92.75 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND with bands of CLAY.
					20.70	83.65		Light grey MUDSTONE.
					23.00	72.05		Light grey MUDSTONE.
					27.30	69.75		Grey SANDSTONE with occasional bands of MUDSTONE.

21 22 23 24 25 26 27 28 29 30

Remarks
Complete.

Borehole Log

Borehole No. **RB304**

Sheet 4 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388453E - 406296N	Hole Type BH
Location:	Middleton		Level:	92.75 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey SANDSTONE with occasional bands of MUDSTONE.
					33.00	65.45		Grey MUDSTONE.
					38.10	59.75		Grey SANDSTONE with occasional bands of MUDSTONE.

31 32 33 34 35 36 37 38 39 40

Remarks
Complete.

Borehole Log

Borehole No. **RB304**

Sheet 5 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388453E - 406296N	Hole Type BH
Location:	Middleton		Level:	92.75 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey SANDSTONE with occasional bands of MUDSTONE.
					41.00	54.65		End of Borehole at 41.00m

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Remarks
Complete.

Borehole Log

Borehole No. **RB305**

Sheet 1 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388471E - 406274N	Hole Type BH
Location:	Middleton		Level:	91.01 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick, concrete, ash and mudstone.
					3.60	91.01		Light brown fine to medium SAND.
					6.60	87.41		Brown fine to medium SAND and GRAVEL.

Remarks

1. Complete. 2. Losing flush in SAND between 18.50m and 22.90m bgl. 3. No coal or voids encountered.

Borehole Log

Borehole No. **RB305**

Sheet 2 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388471E - 406274N	Hole Type BH
Location:	Middleton		Level:	91.01 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					18.50	84.41		Loosing flush in fine to medium SAND.

Remarks

1. Complete. 2. Losing flush in SAND between 18.50m and 22.90m bgl. 3. No coal or voids encountered.

Borehole Log

Borehole No. **RB305**

Sheet 3 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388471E - 406274N	Hole Type BH
Location:	Middleton		Level:	91.01 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Loosing flush in fine to medium SAND.
					22.90	72.51		Hard drilling (No voids).

Remarks

1. Complete. 2. Losing flush in SAND between 18.50m and 22.90m bgl. 3. No coal or voids encountered.

Borehole Log

Borehole No. **RB305**

Sheet 4 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388471E - 406274N	Hole Type BH
Location:	Middleton		Level:	91.01 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. Losing flush in SAND between 18.50m and 22.90m bgl. 3. No coal or voids encountered.

Borehole Log

Borehole No. **RB305**

Sheet 5 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388471E - 406274N	Hole Type BH
Location:	Middleton		Level:	91.01 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).
					43.00	68.11		End of Borehole at 43.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. Losing flush in SAND between 18.50m and 22.90m bgl. 3. No coal or voids encountered.

Borehole Log

Borehole No. **RB306**

Sheet 1 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388506E - 406327N	Hole Type BH
Location:	Middleton		Level:	96.74 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to medium angular to sub-angular of brick, concrete and ash.
					3.90	96.74		Brown fine to medium SAND.
					7.00	92.84		Brown fine to medium SAND and GRAVEL.

Remarks

1. Complete. 2. Losing flush in SAND between 20.00m and 25.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB306**

Sheet 2 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388506E - 406327N	Hole Type BH
Location:	Middleton		Level:	96.74 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					20.00	89.74		

Remarks

1. Complete. 2. Losing flush in SAND between 20.00m and 25.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB306**

Sheet 3 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388506E - 406327N	Hole Type BH
Location:	Middleton		Level:	96.74 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Loosing flush in SAND.
					25.10	76.74		Hard drilling (No voids).

21 22 23 24 25 26 27 28 29 30

Remarks

1. Complete. 2. Losing flush in SAND between 20.00m and 25.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB306**

Sheet 4 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388506E - 406327N	Hole Type BH
Location:	Middleton		Level:	96.74 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).

31
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Remarks

1. Complete. 2. Losing flush in SAND between 20.00m and 25.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB306**

Sheet 5 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388506E - 406327N	Hole Type BH
Location:	Middleton		Level:	96.74 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).
					45.00	71.64		End of Borehole at 45.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. Losing flush in SAND between 20.00m and 25.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB307**

Sheet 1 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388474E - 406374N	Hole Type BH
Location:	Middleton		Level:	97.29 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	97.29		Brown CLAY (TOPSOIL).
								Light brown fine to medium SAND.
					6.10	96.99		Brown fine to medium SAND and GRAVEL.

Remarks

1. Complete. 2. Losing flush in SAND between 19.00m and 22.80m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB307**

Sheet 2 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388474E - 406374N	Hole Type BH
Location:	Middleton		Level:	97.29 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					19.00	91.19		Loosing flush in fine to medium SAND.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. Losing flush in SAND between 19.00m and 22.80m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB307**

Sheet 3 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388474E - 406374N	Hole Type BH
Location:	Middleton		Level:	97.29 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Loosing flush in fine to medium SAND.
					22.80	78.29		Hard drilling (No voids).

Remarks

1. Complete. 2. Losing flush in SAND between 19.00m and 22.80m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB307**

Sheet 4 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388474E - 406374N	Hole Type BH
Location:	Middleton		Level:	97.29 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).

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Remarks

1. Complete. 2. Losing flush in SAND between 19.00m and 22.80m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB307**

Sheet 5 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388474E - 406374N	Hole Type BH
Location:	Middleton		Level:	97.29 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).
					43.00	74.49		End of Borehole at 43.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. Losing flush in SAND between 19.00m and 22.80m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB308**

Sheet 1 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388556E - 406357N	Hole Type BH
Location:	Middleton		Level:	97.22 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and mudstone.
					3.50	97.22		Brown fine to medium SAND and GRAVEL.

Remarks

1. Complete. 2. Losing flush in SAND between 20.60m and 25.50m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB308**

Sheet 2 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388556E - 406357N	Hole Type BH
Location:	Middleton		Level:	97.22 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.

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Remarks

1. Complete. 2. Losing flush in SAND between 20.60m and 25.50m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB308**

Sheet 3 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388556E - 406357N	Hole Type BH
Location:	Middleton		Level:	97.22 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					20.60	93.72		Loosing flush in fine to medium SAND.
					25.50	76.62		Hard drilling (No voids).

Remarks

1. Complete. 2. Losing flush in SAND between 20.60m and 25.50m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB308**

Sheet 4 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388556E - 406357N	Hole Type BH
Location:	Middleton		Level:	97.22 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).

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Remarks

1. Complete. 2. Losing flush in SAND between 20.60m and 25.50m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB308**

Sheet 5 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388556E - 406357N	Hole Type BH
Location:	Middleton		Level:	97.22 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).
					46.00	71.72		End of Borehole at 46.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. Losing flush in SAND between 20.60m and 25.50m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB309**

Sheet 1 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388532E - 406439N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	98.68		Brown CLAY (Topsoil).
								Brown fine to medium SAND.
					6.20	98.38		Brown fine to medium SAND and GRAVEL.

Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 24.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB309**

Sheet 2 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388532E - 406439N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.

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Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 24.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB309**

Sheet 3 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388532E - 406439N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					21.00	92.48		Loosing flush in fine to medium SAND.
					24.10	77.68		Hard drilling (no voids).

Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 24.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB309**

Sheet 4 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388532E - 406439N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (no voids).

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 24.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB309**

Sheet 5 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388532E - 406439N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (no voids).
					45.00	74.58		End of Borehole at 45.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 24.10m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB310**

Sheet 1 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388655E - 406343N	Hole Type BH
Location:	Middleton		Level:	98.08 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to medium angular to sub-angular of brick and mudstone.
					4.20	98.08		Brown fine to medium SAND and GRAVEL with bands of clay.

Remarks

1. Complete. 2. Losing flush in SAND between 22.00m and 26.30m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB310**

Sheet 2 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388655E - 406343N	Hole Type BH
Location:	Middleton		Level:	98.08 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					10.30	93.88		Brown fine to medium SAND and GRAVEL with bands of clay.
								Brown fine to medium SAND and GRAVEL.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. Losing flush in SAND between 22.00m and 26.30m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB310**

Sheet 3 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388655E - 406343N	Hole Type BH
Location:	Middleton		Level:	98.08 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					22.00	87.78		Loosing flush in fine to medium SAND.
					26.30	76.08		Hard drilling (No voids).

Remarks

1. Complete. 2. Losing flush in SAND between 22.00m and 26.30m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB310**

Sheet 4 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388655E - 406343N	Hole Type BH
Location:	Middleton		Level:	98.08 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).

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Remarks

1. Complete. 2. Losing flush in SAND between 22.00m and 26.30m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB310**

Sheet 5 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388655E - 406343N	Hole Type BH
Location:	Middleton		Level:	98.08 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).
					46.00	71.78		End of Borehole at 46.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. Losing flush in SAND between 22.00m and 26.30m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB311**

Sheet 1 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388656E - 406284N	Hole Type BH
Location:	Middleton		Level:	97.30 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and mudstone.
					5.20	97.30		Brown fine to medium SAND and GRAVEL.

Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 27.20m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB311**

Sheet 2 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388656E - 406284N	Hole Type BH
Location:	Middleton		Level:	97.30 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.

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Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 27.20m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB311**

Sheet 3 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388656E - 406284N	Hole Type BH
Location:	Middleton		Level:	97.30 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					21.00	92.10		Loosing flush in fine to medium SAND.
					27.20	76.30		Hard drilling (No voids).

21 22 23 24 25 26 27 28 29 30

Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 27.20m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB311**

Sheet 4 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388656E - 406284N	Hole Type BH
Location:	Middleton		Level:	97.30 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 27.20m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB311**

Sheet 5 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388656E - 406284N	Hole Type BH
Location:	Middleton		Level:	97.30 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling (No voids).
					48.00	70.10		End of Borehole at 48.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. Losing flush in SAND between 21.00m and 27.20m bgl. 3. No voids or coal encountered.

Borehole Log

Borehole No. **RB312**

Sheet 1 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388558E - 406279N	Hole Type BH
Location:	Middleton		Level:	97.21 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of mudstone, brick, concrete and ash.
					5.90	97.21		Brown fine to medium SAND with bands of GRAVEL.
					8.00	91.31		Brown fine to medium SAND and GRAVEL with bands of clay.

1 2 3 4 5 6 7 8 9 10

Remarks

1. Complete. 2. No coal, voids or loss of flush encountered.

Borehole Log

Borehole No. **RB312**

Sheet 2 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388558E - 406279N	Hole Type BH
Location:	Middleton		Level:	97.21 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL with bands of clay.
					19.50	89.21		Brown fine to medium SAND and GRAVEL.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. No coal, voids or loss of flush encountered.

Borehole Log

Borehole No. **RB312**

Sheet 3 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388558E - 406279N	Hole Type BH
Location:	Middleton		Level:	97.21 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown fine to medium SAND and GRAVEL.
					28.00	77.71		Light grey MUDSTONE with traces of COAL.
					29.80	69.21		Dark grey MUDSTONE.

21 22 23 24 25 26 27 28 29 30

Remarks

1. Complete. 2. No coal, voids or loss of flush encountered.

Borehole Log

Borehole No. **RB312**

Sheet 4 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388558E - 406279N	Hole Type BH
Location:	Middleton		Level:	97.21 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					30.20	67.41		Dark grey MUDSTONE.
					30.60	67.01		Dark grey MUDSTONE with traces of COAL.
								Light grey MUDSTONE.
					34.20	66.61		Light grey SANDSTONE with bands of MUDSTONE.

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. No coal, voids or loss of flush encountered.

Borehole Log

Borehole No. **RB312**

Sheet 5 of 5

Project Name:	Don Street - Parcel B/C	Project No. 14-554	Co-ords:	388558E - 406279N	Hole Type BH
Location:	Middleton		Level:	97.21 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	29/03/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light grey SANDSTONE with bands of MUDSTONE.
					49.00	63.01		End of Borehole at 49.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. No coal, voids or loss of flush encountered.

Trial Pit Log

TrialPit No: TP401
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388493.09 - 406231.82 Level: 93.86	Date 13/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 1.20	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.07	93.79		MADE GROUND: Asphalt.
				0.20	93.66		MADE GROUND: Light grey slightly sandy gravel (sub-base). Gravel is fine to coarse angular to sub-angular of limestone.
	0.50	ES					MADE GROUND: Light brown gravelly clay. Gravel is fine to coarse angular to sub-rounded of brick.
				1.20	92.66		End of Pit at 1.20m

Remarks: 1. Terminated due to concrete obstruction at 1.20m bgl.

Stability: Stable.

Trial Pit Log

TrialPit No: TP402
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: - Level:	Date 13/01/2021
Location: Middleton		Dimensions (m): 2.20 x 0.60 Depth 3.00	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10			MADE GROUND: Asphalt.
				0.35			MADE GROUND: Light grey slightly sandy gravel (sub-base). Gravel is fine to coarse angular to sub-angular of limestone.
	0.50	ES					MADE GROUND: Black gravelly clay with frequent cobbles. Gravel is fine to coarse angular to sub-rounded of mudstone and brick. Cobbles are angular of brick.
				3.00			End of Pit at 3.00m

Remarks: 1. Terminated due to collapse.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP403
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388550.07 - 406200.73 Level: 94.68	Date 13/01/2021
Location: Middleton		Dimensions (m): 2.10 x 0.70 Depth 2.30	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	94.58		MADE GROUND: Concrete with rebar.
				0.35	94.33		MADE GROUND: Red cobbles. Cobbles are angular of brick.
	0.60	ES					MADE GROUND: Black slightly clayey very gravelly medium sand with frequent cobbles and wood, metal and pipe. Gravel is fine to coarse angular to sub-angular of mudstone and brick. Cobbles are angular of brick.
				2.30	92.38		End of Pit at 2.30m

Remarks: 1. Terminated due to collapse.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP404
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388563.69 - 406218.69 Level: 94.53	Date 13/01/2021
Location: Middleton		Dimensions (m): 2.00 x 1.00 Depth 3.20	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	94.48		MADE GROUND: Asphalt.
							MADE GROUND: Red cobbles. Cobbles are angular of brick.
				0.30	94.23		MADE GROUND: Dark grey slightly clayey gravelly medium sand. Gravel is fine to coarse angular to sub-rounded of brick.
	0.50	ES					
▼ 3.00							
				3.20	91.33		End of Pit at 3.20m

Remarks: 1. Terminated due to collapse. 2. Water strike encountered at 3.00m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP405
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388591.49 - 406212.09 Level: 94.37	Date 13/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 3.20	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.50 0.60	B ES					MADE GROUND: Dark grey slightly sandy gravelly clay with frequent cobbles. Gravel is fine to coarse angular to sub-rounded of mudstone, brick and pottery. Cobbles are angular of brick.
				3.20	91.17		End of Pit at 3.20m

Remarks: 1. Terminated due to collapse.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP406
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388489.12 - 406201.10 Level: 95.22	Date 13/01/2021
Location: Middleton		Dimensions (m): 2.00 × 0.60 Depth 2.60	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.17	95.05		MADE GROUND: Dark brown slightly clayey medium sand with occasional gravel and rootlets (Topsoil). Gravel is fine to medium sub-angular to sub-rounded of mudstone and brick.
	0.80	ES					MADE GROUND: Dark brown slightly gravelly clayey coarse sand with occasional cobbles. Gravel is fine to coarse angular to sub-rounded of brick and metal. Cobbles are angular of brick.
				2.60	92.62		End of Pit at 2.60m

Remarks: 1. Terminated due to collapse.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP407
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388607.16 - 406203.57 Level: 94.50	Date 13/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.50	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.50	94.00		MADE GROUND: Dark grey very gravelly medium sand with frequent cobbles. Gravel is fine to coarse angular to sub-rounded of mudstone and brick. Cobbles are angular of brick.
	0.60	ES					MADE GROUND: Dark grey gravelly sandy clay. Gravel is fine to coarse angular to sub-angular of brick.
	1.70	ES					
▼ 2.00							
				2.50	92.00		End of Pit at 2.50m

Remarks: 1. Terminated due to collapse. 2. Water strike encountered at 2.00m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP408
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388488.32 - 406117.93 Level: 99.81	Date 13/01/2021
Location: Middleton		Dimensions (m): Depth 1.50 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.17	99.64		MADE GROUND: Asphalt.
				0.30	99.51		MADE GROUND: Light grey slightly sandy gravel (sub-base). Gravel is fine to coarse angular to sub-angular of limestone.
	0.50	ES					Light brown slightly gravelly clayey SAND. Gravel is fine to coarse angular to sub-rounded of mudstone and sandstone.
▼ 0.80							
				1.30	98.51		Light brown sandy CLAY.
				1.50	98.31		End of Pit at 1.50m

Remarks: 1. Terminated due to collapse at 1.50m bgl. 2. Water strike encountered at 0.80m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP409
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388527.34 - 406123.86 Level: 99.41	Date 13/01/2021
Location: Middleton		Dimensions (m): 2.10 x 0.80 Depth 3.50	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	99.26		MADE GROUND: Light grey slightly sandy gravel (sub-base). Gravel is fine to coarse angular to sub-angular of limestone.
				0.30	99.11		MADE GROUND: Red cobbles. Cobbles are angular of brick.
	0.50	ES					MADE GROUND: Black clayey gravelly medium sand. Gravel is fine to coarse angular to sub-rounded of brick. (Slight hydrocarbon odour at 1.60m bgl).
	0.70	B					
				1.60	97.81		MADE GROUND: Black sandy gravelly clay. Gravel is fine to coarse angular to sub-angular of brick.
	2.20	ES					
				3.50	95.91		End of Pit at 3.50m

Remarks: 1. Complete. 2. Slight hydrocarbon odour at 1.60m bgl.

Stability: Stable.

Trial Pit Log

TrialPit No: TP410
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388509.79 - 406160.46 Level: 98.14	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.30 x 0.75 Depth 3.10	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.35	97.79		MADE GROUND: Dark grey clayey medium sand with frequent rootlets and gravel (Toposil). Gravel is fine angular to sub-rounded of brick.
	1.00 1.00	ES HVP	36				MADE GROUND: Soft low strength light brown mottled grey slightly sandy clay with occasional cobbles. Cobbles are angular of brick.
	2.00	HVP	36				
	3.00	HVP	39				
				3.10	95.04		End of Pit at 3.10m

Remarks: 1. Incomplete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP411
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388522.63 - 406173.83 Level: 98.03	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.50 x 0.70 Depth 3.00	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	97.83		MADE GROUND: Dark grey slightly sandy gravelly clay with frequent rootlets and cobbles (Topsoil). Gravel is fine to coarse angular to sub-rounded of mudstone and brick. Cobbles are angular of brick.
							MADE GROUND: Light brown slightly gravelly sandy clay with metal and pottery. Gravel is fine to coarse angular to sub-rounded of brick.
	1.50	ES					
	2.00	B					
	2.50	ES		2.50	95.53		Soft low strength dark brown sandy CLAY.
	2.60	HVP	29				
				3.00	95.03		End of Pit at 3.00m

Remarks: 1. Complete. 2. Slight hydrocarbon odour betwem 0.20m bgl and 2.50m bgl.

Stability: Stable.

Trial Pit Log

TrialPit No: TP412
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388557.65 - 406174.60 Level: 98.37	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.70 Depth 2.00	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.50	ES					MADE GROUND: Dark grey slightly clayey gravelly medium sand with frequent cobbles. Gravel is fine to coarse angular to sub-rounded of brick and clinker. Cobbles are angular of concrete and brick.
	1.20	HVP	12	1.10	97.27		MADE GROUND: Very soft very low strength light brown gravelly sandy clay. Gravel is coarse of angular to sub-rounded brick.
	1.80 1.80	ES HVP	28	1.75	96.62		Soft low strength dark brown slightly sandy CLAY.
				2.00	96.37		End of Pit at 2.00m

Remarks: 1. Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP413
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388576.78 - 406160.94 Level: 98.85	Date 15/01/2021
Location: Middleton		Dimensions (m): 3.00 x 0.60 Depth 3.70	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.08	98.77		MADE GROUND: Dark grey slightly sandy clay with frequent rootlets (Topsoil).
	1.00	ES					MADE GROUND: Dark brown slightly clayey very gravelly coarse sand. Gravel is fine to coarse angular to sub-rounded of brick and concrete.
▼ 1.90	2.00	ES		1.80	97.05		Dark brown very sandy CLAY.
				3.70	95.15		End of Pit at 3.70m

Remarks: 1. Complete. 2. Water strike encountered at 1.90m bgl. 3. Could not obtain hand shear vane due to high sand content.

Stability: Stable.

Trial Pit Log

TrialPit No: TP414
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388533.28 - 406145.33 Level: 98.79	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.10 x 0.80 Depth 3.10	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	98.69		MADE GROUND: Dark grey sandy clay with frequent rootlets (Topsoil).
	0.50	ES					MADE GROUND: Brown very gravelly coarse sand. Gravel is fine to coarse angular to sub-rounded of brick, clinker and concrete.
				1.40	97.39		MADE GROUND: Light brown gravelly sandy clay. Gravel is coarse of angular to sub-rounded brick and concrete.
	2.70	ES					
▼ 2.90							
				3.10	95.69		End of Pit at 3.10m

Remarks: 1. Complete. 2. Water strike encountered at 2.90m bgl.

Stability: Stable.

Trial Pit Log

TrialPit No: TP415
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388561.10 - 406144.51 Level: 99.02	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.90	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.08	98.94		MADE GROUND: Dark grey brown sandy clay with frequent rootlets and cobbles (Topsoil). Cobbles are angular of brick.
	0.50	ES					MADE GROUND: Light brown sandy clay with occasional cobbles. Cobbles are angular of brick.
	1.00	HVP	53				
	1.50	HVP	61				
	2.00	HVP	61				
				2.90	96.12		End of Pit at 2.90m

Remarks: 1. Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP416
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388506.36 - 406141.27 Level: 98.07	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 3.00	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	97.92		MADE GROUND: Dark grey slightly sandy gravelly clay with frequent rootlets (Topsoil). Gravel is fine to coarse angular to sub-rounded of brick.
				0.45	97.62		MADE GROUND: Brown slightly sandy gravel. Gravel is fine to coarse angular to sub-rounded of brick and concrete.
	1.00	ES					MADE GROUND: Dark grey slightly sandy gravelly clay with occasional cobbles. Gravel is fine to coarse angular to sub-angular of brick and wood. Cobbles are angular of brick.
				2.30	95.77		MADE GROUND: Light brown clay with occasional gravel. Gravel is coarse of angular brick.
				3.00	95.07		End of Pit at 3.00m

Remarks: 1. Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP417
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388630.12 - 406202.68 Level: 98.83	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.10 × 0.80 Depth 4.20	Scale 1:24
Client: Kellen Homes			Logged I. McQuillan

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	98.73		MADE GROUND: Dark brown slightly sandy clay with frequent rootlets (Topsoil).
	0.80	ES					Orange brown slightly clayey medium SAND.
				1.00	97.83		Firm medium strength brown slightly sandy CLAY.
	1.20	ES					
	2.00	HVP	64				
	3.00	HVP	63				
				4.20	94.63		End of Pit at 4.20m

Remarks: 1. Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP418
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388628.17 - 406160.68 Level: 95.75	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.20 x 0.60 Depth 2.30	Scale 1:24
Client: Kellen Homes			Logged I. McQuillan

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Dark brown slightly silty clayey medium sand with frequent rootlets (Topsoil).
				0.30	95.45		Light brown slightly clayey gravelly medium SAND. Gravel is fine to coarse sub-rounded to rounded of mudstone.
				2.30	93.45		End of Pit at 2.30m

Remarks: 1. Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP419
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388636.16 - 406132.25 Level: 99.28	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.00	Scale 1:24
Client: Kellen Homes			Logged I. McQuillan

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	98.98		MADE GROUND: Dark brown silty clayey medium sand with occasional rootlets and plastic.
				1.00	98.28		Dark brown slightly clayey silty medium SAND.
				2.00	97.28		Light brown clayey gravelly medium SAND. Gravel is fine to coarse sub-rounded to rounded of mudstone and sandstone.
							End of Pit at 2.00m

Remarks: 1. Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP420
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388617.04 - 406139.77 Level: 99.39	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.00 x 0.60 Depth 2.50	Scale 1:24
Client: Kellen Homes			Logged I. McQuillan

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Dark brown silty clayey medium sand with occasional rootlets and plastic, wood and pottery. Gravel is coarse angular to sub-rounded of brick and concrete.
	1.60	B		1.50	97.89		Light brown slightly clayey gravelly medium SAND. Gravel is fine to coarse sub-angular to sub-rounded of mudstone.
				2.50	96.89		End of Pit at 2.50m

Remarks: 1. Complete.

Stability: Stable.

Trial Pit Log

TrialPit No: TP421
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: 388610.21 - 406123.35 Level: 100.56	Date 15/01/2021
Location: Middleton		Dimensions (m): 2.10 x 0.60 Depth 1.80	Scale 1:24
Client: Kellen Homes			Logged I. McQuillan

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Dark brown slightly silty clayey medium sand with frequent rootlets, glass and wood (Topsoil).
				0.40	100.16		Orange brown slightly clayey fine to medium SAND with occasional gravel. Gravel is fine to coarse sub-angular to sub-rounded of mudstone.
				1.80	98.76		End of Pit at 1.80m

Remarks: 1. Terminated due to collapse at 0.30m bgl.

Stability: Unstable.

Trial Pit Log

TrialPit No: TP427
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: - Level:	Date 13/01/2021
Location: Middleton		Dimensions (m): Depth 1.70 — 2.00 × 0.60	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.07			MADE GROUND: Asphalt.
	0.30	ES		0.35			MADE GROUND: Light grey slightly sandy gravel (sub-base). Gravel is fine to coarse angular to sub-angular of limestone.
	0.50 0.50	ES HVP	50				Firm medium strength light brown slightly sandy CLAY. (Becoming soft low strength at 1.00m bgl, becoming firm medium strength at 1.50m bgl).
	1.00	HVP	40				
	1.50 1.50	ES HVP	50				
				1.70			End of Pit at 1.70m

Remarks: 1. Terminated due to land drain encountered at 1.70m bgl.

Stability: Stable.

Trial Pit Log

TrialPit No: TP428
Sheet 1 of 1

Project Name: Don Street- Parcel D/E	Project No. 14554	Co-ords: - Level:	Date 13/01/2021
Location: Middleton		Dimensions (m): 1.80 x 1.10 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged N. Gregory

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.08			MADE GROUND: Asphalt.
				0.45			MADE GROUND: Light brown medium sand with occasional cobbles. Cobbles are angular of brick.
	0.60 0.60	B ES					MADE GROUND: Dark grey slightly sandy gravelly clay. Gravel is fine to coarse angular to sub-rounded of brick.
	2.00	ES					
				2.40			End of Pit at 2.40m

Remarks: 1. Terminated due to concrete obstruction at 2.40m bgl.

Stability: Stable.

Borehole Log

Borehole No. **WS401**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388512E - 406211N	Hole Type WS
Location:	Middleton		Level:	94.39 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.08	94.39		MADE GROUND: Asphalt.
								MADE GROUND: Dark grey slightly sandy gravel. Gravel is fine to coarse angular to sub-rounded of brick, concrete and limestone.
					0.60	94.31		MADE GROUND: Dark brown slightly gravelly clay. Gravel is fine to coarse angular to sub-rounded of brick.
		1.00	D		1.00	93.79		MADE GROUND: Dark grey sandy gravel. Gravel is fine to coarse angular to sub-rounded of brick.
		1.00	SPT	N=46 (10,13/12,13,11,10)				
		1.20	ES					
					1.80	93.39		MADE GROUND: Dark grey slightly gravelly coarse sand. Gravel is fine to coarse angular to sub-rounded of brick.
		2.00	D					
		2.00	SPT	N=9 (2,2/3,2,2,2)				
		3.00	D					
		3.00	U					
		3.00	SPT	N=13 (2,3/3,4,2,4)				
		3.50	ES					
		4.00	D					
		4.00	SPT	N=9 (2,2/2,3,2,2)				
		5.00	D					
		5.00	SPT	N=31 (5,7/7,8,9,7)				
					5.45	92.59		End of Borehole at 5.45m

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10

Remarks

1. Complete. 2. Monitoring well installed- response zone 0.50m to 4.50m bgl.

Borehole Log

Borehole No. **WS402**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388608E - 406211N	Hole Type WS
Location:	Middleton		Level:	94.21 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.08	94.21		MADE GROUND: Dark grey slightly clayey medium sand with frequent rootlets (Topsoil). MADE GROUND: Light brown sandy gravel. Gravel is fine to coarse angular to sub-rounded of brick, concrete and occasional clinker.
					0.85	94.13		MADE GROUND: Dark grey slightly gravelly clay. Gravel is fine angular of brick.
		1.00 1.00 1.20	D SPT ES	N=31 (3,7/7,8,7,9)	1.05	93.36		MADE GROUND: Light brown sandy gravel. Gravel is fine to coarse angular to sub-rounded of brick and concrete.
		2.00 2.00	D SPT	N=9 (2,2/2,3,2,2)				
	3.00	3.00	SPT	N=5 (1,2/2,1,1,1)	3.00	93.16		Firm low strength dark grey sandy CLAY. Becoming stiff medium strength from circa. 4.00m bgl.
		3.40	PP	17.17				
		4.00 4.00	ES SPT	N=12 (2,3/3,3,3,3)				
		4.50	PP	19.62				
		5.00 5.00	D SPT	N=15 (3,4/4,3,4,4)				
					5.45	91.21		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 3.00m bgl. 3. Monitoring well installed- response zone 1.00m to 5.00m bgl.

Borehole Log

Borehole No. **WS403**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388572E - 406200N	Hole Type WS
Location:	Middleton		Level:	94.71 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		1.00	D					MADE GROUND: Dark grey sandy gravel. Gravel is fine to coarse angular to sub-rounded of brick, concrete and occasional clinker.
		1.00	ES					
		1.00	SPT	N=23 (6,5/5,7,5,6)				
	2.00	2.00	D					
		2.00	SPT	N=10 (2,2/3,3,2,2)				
		2.50	ES					
		3.00	SPT	N=13 (3,4/4,3,3,3)				
		4.00	D					
		4.00	SPT	N=15 (4,3/3,4,4,4)	4.20	94.71		Stiff medium strength dark grey sandy CLAY. Becoming very stiff high strength from circa. 5.00m bgl.
		4.20	PP	17.17				
		5.00	D					
		5.00	SPT	N=24 (5,6/7,5,5,7)				
					5.45	90.51		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 2.00m bgl. 3. Monitoring well installed- response zone 0.50m to 3.00m bgl.

Borehole Log

Borehole No. **WS404**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388641E - 406188N	Hole Type WS
Location:	Middleton		Level:	94.73 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	PP	17.17	0.30	94.73		Dark brown slightly sandy clay with frequent rootlets (Topsoil).
		0.50	ES					Loose light brown slightly clayey coarse SAND.
		1.00	D					
		1.00	SPT	N=8 (2,2/2,2,2,2)				
		1.50	U		1.40	94.43		Stiff medium strength dark brown slightly sandy CLAY. Becoming very stiff high strength from circa. 3.00m bgl.
		1.50	PP	31.88				
		2.00	D					
		2.00	SPT	N=10 (2,1/2,2,3,3)				
		2.30	ES					
	3.00	3.00	D					
		3.00	SPT	N=18 (4,3/3,5,5,5)				
		4.00	D					
		4.00	SPT	N=18 (4,3/3,5,5,5)				
		5.00	D					
		5.00	SPT	N=26 (6,5/6,7,6,7)				
					5.45	93.33		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 3.00m bgl. 3. Monitoring well installed- response zone 0.50m to 3.00m bgl.

Borehole Log

Borehole No. **WS405**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	8653E - 406149N	Hole Type WS
Location:	Middleton		Level:	95.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.25	ES		0.20	95.66		MADE GROUND: Dark brown sandy clay with frequent rootlets (Topsoil).
		1.00 1.00	D SPT	N=4 (3,1/1,1,1,1)				MADE GROUND: Reddish brown gravel. Gravel is fine to coarse angular to sub-rounded of brick and clinker.
		1.50	ES		1.10	95.46		Firm low strength brown slightly sandy CLAY with occasional cobbles. Cobbles are sub-angular of sandstone. Becoming stiff medium strength from circa. 2.00m bgl, then becoming very stiff high strength from circa. 4.00m bgl.
		2.00 2.00	D SPT	N=16 (2,3/4,4,4,4)				
	3.00	3.00 3.00	D SPT	N=11 (3,2/3,3,2,3)				
		4.00 4.00	D SPT	N=19 (4,5/6,5,4,4)				
					4.50	94.56		Medium dense light brown slightly clayey coarse SAND.
		5.00 5.00	D SPT	N=24 (6,5/6,6,6,6)				
					5.45	91.16		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 3.00m bgl. 3. Monitoring well installed- response zone 0.50m to 3.50m bgl.

Borehole Log

Borehole No. **WS406**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388536E - 406157N	Hole Type WS
Location:	Middleton		Level:	98.38 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.12	98.38		MADE GROUND: Concrete with rebar.
		1.00	D					MADE GROUND: Dark grey slightly clayey sandy gravel. Gravel is fine to coarse angular to sub-rounded of brick and concrete.
		1.00	SPT	N=31 (10,10/15,5,6,5)				
					1.30	98.26		MADE GROUND: Dark brown grey gravelly clay. Gravel is fine to coarse angular to sub-rounded of brick.
		2.00	D					
		2.00	SPT	N=4 (1,2/1,1,1,1)				
		3.00	D					
		3.00	ES					
		3.00	U					
		3.00	SPT	N=9 (3,1/3,3,1,2)				
		4.00	D					
		4.00	ES					
		4.00	SPT	N=6 (3,1/1,1,2,2)				
		5.00	SPT	50 (25,/50,,,)				
					5.45	97.08		End of Borehole at 5.45m

Remarks

1. Complete. 2. Monitoring well installed- response zone 1.00m to 5.00m bgl.

Borehole Log

Borehole No. **WS407**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388584E - 406173N	Hole Type WS
Location:	Middleton		Level:	98.48 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	98.48		MADE GROUND: Dark grey slightly gravelly sandy clay. Gravel is fine to coarse angular to sub-rounded of brick.
		1.00	D					MADE GROUND: Dark grey slightly clayey gravel. Gravel is fine to coarse angular to sub-rounded of brick and occasional clinker.
		1.00	SPT	N=5 (1,2/1,2,1,1)	1.20	98.38		
		1.50	ES					MADE GROUND: Dark grey sandy clay with occasional gravel. Gravel is coarse angular to sub-rounded of brick.
		2.00	D					
		2.00	U					
		2.00	SPT	N=2 (0,0/0,0,1,1)				
		2.50	ES					
		3.00	D					
		3.00	SPT	N=11 (1,2/2,3,3,3)				
		4.00	D					
		4.00	SPT	N=7 (1,1/1,1,3,2)				
	▼ 5.00	5.00	D					
		5.00	SPT	N=8 (1,2/2,2,2,2)				
					5.45	97.28		End of Borehole at 5.45m

Remarks

1. Complete. 2. Water strike encountered at 5.00m bgl. 3. Monitoring well installed- response zone 0.50m to 3.50m bgl.

Borehole Log

Borehole No. **WS408**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388541E - 406125N	Hole Type WS
Location:	Middleton		Level:	99.41 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		1.00 1.00 1.00	D ES SPT	N=10 (2,3/2,2,3,3)	0.90	99.41		MADE GROUND: Red brown slightly sandy gravel. Gravel is fine to coarse angular to sub-rounded of brick and concrete.
		2.00 2.00 2.00 2.50	D ES SPT U	N=10 (25,24/3,3,2,2)	1.90	98.51		MADE GROUND: Dark brown slightly gravelly clay. Gravel is fine to medium angular to sub-rounded of brick, concrete and occasional clinker.
		3.00 3.00	D SPT	N=9 (2,3/3,2,2,2)				Stiff medium strength dark grey slightly gravelly slightly sandy CLAY. Becoming firm low strength from circa. 3.00m bgl.
		4.00 4.00	D SPT	N=5 (1,2/1,2,1,1)				
		5.00 5.00	D SPT	N=9 (1,2/2,2,3,2)				
					5.45	97.51		End of Borehole at 5.45m

Remarks

1. Complete. 2. Monitoring well installed- response zone 0.50m to 4.50m bgl.

Borehole Log

			Borehole No.	**WS409**
			Sheet 1 of 1	
Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords: 388494E - 406133N	Hole Type WS
Location:	Middleton		Level: 99.36 m AOD	Scale 1:50
Client:	Kellen Homes		Dates: 14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05	99.36		MADE GROUND: Dark brown sandy clay.
								MADE GRORUND: Red brown gravel. Gravel is fine to coarse angular sub-rounded of brick and clinker.
					0.50	99.31		Firm low strength dark brown grey sandy CLAY.
		1.00	D					
		1.00	ES					
		1.00	SPT	N=4 (1,1/1,1,1,1)				
		1.70	ES					
		1.75	PP	34.34				
		2.00	D					
		2.00	SPT	N=11 (2,2/2,3,3,3)				
					2.30	98.86		Medium dense light brown clayey coarse SAND. Becoming loose at circa. 3.00m bgl.
		2.50	U					
		3.00	SPT	N=11 (2,3/3,3,3,2)				
					3.40	97.06		Firm low strength light brown sandy CLAY.
		3.50	PP	44.14				
		4.00	D					
		4.00	SPT	N=6 (2,3/2,1,1,2)				
		5.00	D					
		5.00	SPT	N=7 (2,1/1,2,2,2)				
					5.45	95.96		End of Borehole at 5.45m

Remarks

1. Complete. 2. Monitoring well installed- response zone 0.50m to 4.50m bgl.

Borehole Log

Borehole No. **WS410**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388496E - 406169N	Hole Type WS
Location:	Middleton		Level:	95.69 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.35	95.69		MADE GROUND: Dark brown sandy clay with occasional gravel. Gravel is fine to coarse angular to sub-angular of brick.
		1.00 1.00 1.20	D SPT ES	N=7 (1,2/2,1,2,2)				MADE GROUND: Firm medium strength black brown gravelly clay. Gravel is fine to coarse angular to sub-rounded of brick, concrete and clinker. MADE GROUND: Black brown gravelly clay. Gravel is fine to coarse angular to sub-rounded of brick, concrete and clinker.
		2.00 2.00	D SPT	50 (5,5/50 for 245mm)				
					2.40	95.34		End of Borehole at 2.45m
					2.45	95.34		

Remarks

1. Refused on concrete obstruction. 2. Monitoring well installed- response zone 1.00m to 2.00m bgl.

Borehole Log

Borehole No. **WS411**

Sheet 1 of 1

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388602E - 406138N	Hole Type WS
Location:	Middleton		Level:	99.76 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	14/01/2021	Logged By N. Gregory

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.15	99.76		MADE GROUND: Dark brown sandy clay with frequent rootlets (Topsoil).
		0.50	U		0.50	99.61		MADE GROUND: Black slightly clayey sandy gravel. Gravel is fine to coarse angular to sub-angular of brick and clinker.
								Light brown sandy CLAY.
		1.00	ES					
		1.00	PP	34.34				
		1.00	SPT	N=10 (2,3/2,2,3,3)	1.25	99.26		Medium dense light brown clayey coarse SAND.
	▼ 2.00							
		2.00	D					
		2.00	ES					
		2.00	SPT	N=14 (3,3/4,4,3,3)				
		3.00	D					
		3.00	SPT	N=31 (6,7/8,8,8,7)				
		4.00	D					
		4.00	PP	17.17	4.10	98.51		Very stiff very high strength light brown slightly sandy CLAY.
		4.00	SPT	50 (9,12/50 for 290mm)	4.44	95.66		Very stiff very high strength light brown slightly sandy CLAY.
					4.45	95.66		End of Borehole at 4.45m

Remarks

1. Refused. 2. Water strike encountered at 2.00m bgl. 3. Monitoring well installed- response zone 1.00m to 3.00m bgl.

Borehole Log

Borehole No. **RB401**

Sheet 1 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388633E - 406211N	Hole Type BH
Location:	Middleton		Level:	93.16 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of brick and ash.
					2.30	93.16		Light brown fine to medium SAND with bands of GRAVEL.
					2.90	90.86		Light brown fine to medium SAND with traces of COAL.
					6.30	90.26		Light brown fine to medium SAND with bands of GRAVEL.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB401**

Sheet 2 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388633E - 406211N	Hole Type BH
Location:	Middleton		Level:	93.16 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND with bands of GRAVEL.
					14.10	86.86		Dense brown fine to medium SAND.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB401**

Sheet 3 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388633E - 406211N	Hole Type BH
Location:	Middleton		Level:	93.16 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dense brown fine to medium SAND.
					21.60	79.06		Hard drilling, no voids.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB401**

Sheet 4 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388633E - 406211N	Hole Type BH
Location:	Middleton		Level:	93.16 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids.
					40.00	71.56		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB402**

Sheet 1 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388505E - 406211N	Hole Type BH
Location:	Middleton		Level:	94.39 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	21/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	94.39		MADE GROUND: Asphalt.
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and brick.
					1.30	94.19		MADE GROUND: Light brown gravelly sand. Gravel is fine to coarse angular of brick.
					2.70	93.09		MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and brick.
					7.40	91.69		Light brown fine to medium SAND.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB402**

Sheet 2 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388505E - 406211N	Hole Type BH
Location:	Middleton		Level:	94.39 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	21/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB402**

Sheet 3 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388505E - 406211N	Hole Type BH
Location:	Middleton		Level:	94.39 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	21/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND.
					21.10	86.99		Hard drilling, no voids.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB402**

Sheet 4 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388505E - 406211N	Hole Type BH
Location:	Middleton		Level:	94.39 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	21/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids.
					40.00	73.29		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB403**

Sheet 1 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388668E - 406146N	Hole Type BH
Location:	Middleton		Level:	95.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and brick.
					2.30	95.66		Light brown fine to medium SAND with bands of GRAVEL.
					2.90	93.36		Light brown fine to medium SAND with bands of COAL.
					7.20	92.76		Light brown fine to medium SAND with bands of GRAVEL.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB403** Sheet 2 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388668E - 406146N	Hole Type BH
Location:	Middleton		Level:	95.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND with bands of GRAVEL.
					15.60	88.46		Dense light brown fine to medium SAND.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB403**

Sheet 3 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388668E - 406146N	Hole Type BH
Location:	Middleton		Level:	95.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dense light brown fine to medium SAND.
					24.50	80.06		Hard drilling, no voids.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB403**

Sheet 4 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388668E - 406146N	Hole Type BH
Location:	Middleton		Level:	95.66 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	26/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids.
					40.00	71.16		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB404**

Sheet 1 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388664E - 406149N	Hole Type BH
Location:	Middleton		Level:	100.46 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and brick.
					2.50	100.46		Light brown fine to medium SAND and GRAVEL.
					3.10	97.96		Light brown fine to medium SAND with traces of COAL.
					8.00	97.36		Light brown fine to medium SAND with bands of GRAVEL.

Remarks

1. Complete. 2. Hard drilling with loss of flush between 26.30m and 43.00m bgl.

Borehole Log

Borehole No. **RB404**

Sheet 2 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388664E - 406149N	Hole Type BH
Location:	Middleton		Level:	100.46 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND with bands of GRAVEL.
					14.20	92.46		Light brown fine to medium SAND.

Remarks

1. Complete. 2. Hard drilling with loss of flush between 26.30m and 43.00m bgl.

Borehole Log

Borehole No. **RB404**

Sheet 3 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388664E - 406149N	Hole Type BH
Location:	Middleton		Level:	100.46 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND.
					26.30	86.26		Hard drilling, no flush return.

Remarks

1. Complete. 2. Hard drilling with loss of flush between 26.30m and 43.00m bgl.

Borehole Log

Borehole No. **RB404**

Sheet 4 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388664E - 406149N	Hole Type BH
Location:	Middleton		Level:	100.46 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no flush return.

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Remarks

1. Complete. 2. Hard drilling with loss of flush between 26.30m and 43.00m bgl.

Borehole Log

Borehole No. **RB404**

Sheet 5 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388664E - 406149N	Hole Type BH
Location:	Middleton		Level:	100.46 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no flush return.
					43.00	74.16		End of Borehole at 43.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. Hard drilling with loss of flush between 26.30m and 43.00m bgl.

Borehole Log

Borehole No. **RB405**

Sheet 1 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388663E - 406211N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and brick.
					2.40	98.68		Light brown sandy CLAY.
					3.80	96.28		Light brown fine to medium SAND.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB405**

Sheet 2 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388663E - 406211N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND.
					16.70	94.88		Light brown fine to medium SAND with bands of GRAVEL.
					17.20	81.98		Light brown fine to medium SAND.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB405**

Sheet 3 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388663E - 406211N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND.
					29.00	81.48		Hard drilling, no voids.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB405**

Sheet 4 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388663E - 406211N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids.

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Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB405**

Sheet 5 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388663E - 406211N	Hole Type BH
Location:	Middleton		Level:	98.68 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids.
					43.00	69.68		End of Borehole at 43.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB406**

Sheet 1 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388553E - 406203N	Hole Type BH
Location:	Middleton		Level:	96.48 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	96.48		MADE GROUND: Concrete.
					0.50	96.28		MADE GROUND: Light yellow sandy gravel. Gravel is fine to coarse angular to sub-angular of limestone.
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and brick.
					4.30	95.98		Brown fine to medium SAND.
					9.60	92.18		Brown CLAY with bands of SAND.

Remarks
Complete.

Borehole Log

Borehole No. **RB406**

Sheet 2 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388553E - 406203N	Hole Type BH
Location:	Middleton		Level:	96.48 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown CLAY with bands of SAND.
					13.80	86.88		Light brown fine to medium SAND.

Remarks
Complete.

Borehole Log

Borehole No. **RB406**

Sheet 3 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388553E - 406203N	Hole Type BH
Location:	Middleton		Level:	96.48 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND.
					22.10	82.68		Hard drilling, no bands or voids.

Remarks
Complete.

Borehole Log

Borehole No. **RB406**

Sheet 4 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388553E - 406203N	Hole Type BH
Location:	Middleton		Level:	96.48 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no bands or voids.
					40.00	74.38		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks
Complete.

Borehole Log

Borehole No. **RB407**

Sheet 1 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388509E - 406167N	Hole Type BH
Location:	Middleton		Level:	97.85 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and brick.
					0.70	97.85		MADE GROUND: Wood.
					0.90	97.15		MADE GROUND: Black gravelly fine to medium sand. Gravel is fine to coarse angular to sub-angular of ash and brick.
					3.20	96.95		Light brown fine to medium SAND.
					4.50	94.65		Light brown fine to medium SAND with bands of GRAVEL.
					5.30	93.35		Light brown fine to medium SAND with occasional bands of GRAVEL.

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB407**

Sheet 2 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388509E - 406167N	Hole Type BH
Location:	Middleton		Level:	97.85 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND with occasional bands of GRAVEL.

11 12 13 14 15 16 17 18 19 20

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB407**

Sheet 3 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388509E - 406167N	Hole Type BH
Location:	Middleton		Level:	97.85 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown fine to medium SAND with occasional bands of GRAVEL.
					29.80	92.55		Hard drilling, no voids or soft bands.

21 22 23 24 25 26 27 28 29 30

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB407**

Sheet 4 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388509E - 406167N	Hole Type BH
Location:	Middleton		Level:	97.85 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids or soft bands.

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Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB407**

Sheet 5 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388509E - 406167N	Hole Type BH
Location:	Middleton		Level:	97.85 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	22/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids or soft bands.
					44.00	68.05		End of Borehole at 44.00m

41 42 43 44 45 46 47 48 49 50

Remarks

1. Complete. 2. No voids, coal or loss of flush encountered.

Borehole Log

Borehole No. **RB408**

Sheet 1 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388501E - 406127N	Hole Type BH
Location:	Middleton		Level:	99.25 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	21/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	99.25		MADE GROUND: Brown clay (Topsoil).
								MADE GROUND: Brick and ash fill.
					2.30	98.95		Light brown sandy CLAY.
					6.30	96.95		Light brown SAND.
					7.40	92.95		Light brown SAND with occasional bands of CLAY.

Remarks
Complete.

Borehole Log

Borehole No. **RB408**

Sheet 2 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388501E - 406127N	Hole Type BH
Location:	Middleton		Level:	99.25 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	21/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown SAND with occasional bands of CLAY.
					18.70	91.85		Light brown SAND with bands of GRAVEL.

11 12 13 14 15 16 17 18 19 20

Remarks
Complete.

Borehole Log

Borehole No. **RB408**

Sheet 3 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388501E - 406127N	Hole Type BH
Location:	Middleton		Level:	99.25 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	21/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown SAND with bands of GRAVEL.
					26.20	80.55		Dense brown SAND with occasional bands of CLAY.

21 22 23 24 25 26 27 28 29 30

Remarks
Complete.

Borehole Log

Borehole No. **RB408**

Sheet 4 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388501E - 406127N	Hole Type BH
Location:	Middleton		Level:	99.25 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	21/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dense brown SAND with occasional bands of CLAY.
					32.80	73.05		Grey MUDSTONE with occasional bands of SANDSTONE.

31 32 33 34 35 36 37 38 39 40

Remarks
Complete.

Borehole Log

Borehole No. **RB408**

Sheet 5 of 5

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388501E - 406127N	Hole Type BH
Location:	Middleton		Level:	99.25 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	21/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					40.20	66.45		Grey MUDSTONE with occasional bands of SANDSTONE. Grey SANDSTONE.
					47.00	59.05		End of Borehole at 47.00m

41 42 43 44 45 46 47 48 49 50

Remarks
Complete.

Borehole Log

Borehole No. **RB409**

Sheet 1 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388613E - 406217N	Hole Type BH
Location:	Middleton		Level:	94.22 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Brick and stone fill.
					0.40	94.22		MADE GROUND: Brick and ash fill.
					4.00	93.82		Brown clayey SAND.
					9.20	90.22		Brown SAND with occasional GRAVEL.
					9.80	85.02		Brown SAND with occasional bands of CLAY.

Remarks
Complete.

Borehole Log

Borehole No. **RB409**

Sheet 2 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388613E - 406217N	Hole Type BH
Location:	Middleton		Level:	94.22 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				Brown SAND with occasional bands of CLAY.

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Remarks
Complete.

Borehole Log

Borehole No. **RB409**

Sheet 3 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388613E - 406217N	Hole Type BH
Location:	Middleton		Level:	94.22 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Brown SAND with occasional bands of CLAY.
					21.90	84.42		Hard drilling, no voids.

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24
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Remarks
Complete.

Borehole Log

Borehole No. **RB409**

Sheet 4 of 4

Project Name:	Don Street- Parcel D/E	Project No. 14554	Co-ords:	388613E - 406217N	Hole Type BH
Location:	Middleton		Level:	94.22 m AOD	Scale 1:50
Client:	Kellen Homes		Dates:	25/01/2021	Logged By DP Drilling

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard drilling, no voids.
					40.00	72.32		End of Borehole at 40.00m

31 32 33 34 35 36 37 38 39 40

Remarks
Complete.

Trial Pit Log

TrialPit No: TP501
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388654.00 - 406286.00 Level: 97.30	Date 08/02/2022
Location: Middleton		Dimensions (m): 3.00 x 0.80 Depth 2.90	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	97.20		MADE GROUND: Dark brown slightly clayey sandy gravel with frequent rootlets (Topsoil).
	0.40	ES					MADE GROUND: Dark brown slightly clayey sandy gravel. Gravel is fine to coarse subangular to subrounded of brick and with frequent fragments of plastic, ceramic, glass, and wood.
				2.10	95.20		MADE GROUND: Dark brown slightly gravelly sandy clay. Gravel is fine to coarse subangular to subrounded of brick and coal (slight hydrocarbon odour).
	2.30	ES					
				2.90	94.40		End of Pit at 2.90m

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Trial Pit Photographs



TP101



TP101 Spoil

Remarks: 1. Complete. 2. Clay too friable for Hand Shear Vane.

Stability: Stable

Trial Pit Log

TrialPit No: TP502
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388624.00 - 406280.00 Level: 97.70	Date 08/02/2022
Location: Middleton		Dimensions (m): 3.00 x 0.80 Depth 2.90	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	97.60		MADE GROUND: Dark brown slightly gravelly clay with frequent rootlets (Topsoil).
	0.40	ES					MADE GROUND: Dark brown slightly clayey gravelly sand. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of plastic and wood.
				0.90	96.80		
	1.40	D					MADE GROUND: Dark brown sandy gravelly clay. Gravel is fine to coarse subangular to subrounded of brick and sandstone with occasional plastic sheeting.
	1.40	ES					
▼ 2.70							
				2.90	94.80		End of Pit at 2.90m

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2
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4

Trial Pit Photographs



TP102



TP102 Spoil

Remarks: 1. Complete. 2. Water strike encountered at 2.7 m bgl. 3. Clay to friable for Hand Shear Vane.

Stability: Unstable

Trial Pit Log

TrialPit No: TP503
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388612.00 - 406265.00 Level: 97.44	Date 08/02/2022
Location: Middleton		Dimensions (m): 3.00 x 0.80 Depth 2.70	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	97.24		MADE GROUND: Dark brown slightly sandy clay with frequent rootlets (Topsoil).
	0.70	ES		0.80	96.64		MADE GROUND: Dark brown sandy gravelly Clay. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of wood, ceramic, plastic, and glass.
	1.20	B		2.70	94.74		MADE GROUND: Dark brown gravelly clay. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of wood, plastic, glass. (Slight Hydrocarbon odour).
							End of Pit at 2.70m

1
2
3
4

Trial Pit Photographs



TP103



TP103 Spoil

Remarks: 1. Complete. 2. Slight hydrocarbon odour at 0. to 2.7 m bgl. 3. Clay to friable for Hand Shear Vane

Stability: Stable

Trial Pit Log

TrialPit No: TP504
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388606.00 - 406262.00 Level: 97.17	Date 08/02/2022
Location: Middleton		Dimensions (m): 2.50 x 0.80 Depth 2.50	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	96.97		MADE GROUND: Dark brown slightly sandy gravelly clay with frequent rootlets (Topsoil).
	1.20 1.20	D ES					MADE GROUND: Dark brown slightly sandy gravelly clay. Gravel is fine to coarse subangular to subrounded of brick and sandstone with frequent fragments of asphalt, ceramic, wood, and glass. (Moderate Hydrocarbon odour).
				2.50	94.67		End of Pit at 2.50m

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Trial Pit Photographs



TP104



TP104 Spoil

Remarks: 1. Complete. 2. Moderate Hydrocarbon odour at 0.2 to 2.5 m bgl. 3. Clay to friable for Hand Shear Vane.

Stability: Stable

Trial Pit Log

TrialPit No: TP505
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388600.00 - 406268.00 Level: 97.34	Date 08/02/2022
Location: Middleton		Dimensions (m): 2.50 x 0.80 Depth 3.00	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	97.24		MADE GROUND: Dark brown slightly gravelly clay with frequent rootlets (Topsoil).
	0.60	ES					MADE GROUND: Dark brown slightly sandy gravelly clay. Gravel is fine to coarse subangular to subrounded of brick and occasional fragments of ceramic.
				1.00	96.34		MADE GROUND: Dark brown slightly clayey slightly sandy gravel. Gravel is fine to coarse subangular to subrounded of bricks with frequent fragments of wood, plastic sheets, and glass.
	1.50	B					
	1.80	ES					
				3.00	94.34		End of Pit at 3.00m

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Trial Pit Photographs



TP105



TP105 Spoil

Remarks: 1. Complete. 2. Large lumps of concrete between 0.1 to 1.00 m bgl.

Stability: Stable

Trial Pit Log

TrialPit No: TP506
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388591.00 - 406266.00 Level: 97.13	Date 08/02/2022
Location: Middleton		Dimensions (m): Depth 2.50 (0.80 × 2.50)	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	96.93		MADE GROUND: Dark brown slightly sandy clay with frequent rootlets (Topsoil).
	0.70 0.70	D ES					MADE GROUND: Dark brown slightly sandy very gravelly clay. Gravel is fine to coarse subangular to subrounded of brick and asphalt with frequent fragments of plastic, textiles, glass, and wood. (Slight hydrocarbon odour).
				2.50	94.63		End of Pit at 2.50m

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Trial Pit Photographs



TP106



TP106 Spoil

Remarks: 1. Complete. 2. Large lumps of concrete between 0.2 to 2.5 m bgl. 3. Slight hydrocarbon odour between 0.2 to 2.5 m bgl. 4. Clay to friable for Hand Shear Vane.

Stability: Unstable

Trial Pit Log

			TrialPit No TP507 Sheet 1 of 1
Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388576.00 - 406269.00 Level: 96.95	Date 08/02/2022
Location: Middleton		Dimensions (m): Depth 3.20 — 2.50 × 0.80	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	96.85		MADE GROUND: Dark brown slightly gravelly clay with frequent rootlets (Topsoil).
	0.80	ES		1.10	95.85		MADE GROUND: Dark brown slightly sandy clayey gravel with occasional pockets of light brown sand. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of plastic and concrete.
	1.40	ES					MADE GROUND: Brown clayey gravel. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of plastic, concrete, and glass.
				3.20	93.75		End of Pit at 3.20m

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Trial Pit Photographs



TP107



TP107 Spoil

Remarks: 1. Complete

Stability: Stable

Trial Pit Log

TrialPit No: TP508
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388555.00 - 406278.00 Level: 96.67	Date 08/02/2022
Location: Middleton		Dimensions (m): 2.50 x 0.80 Depth 3.00	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	96.47		MADE GROUND: Dark brown slightly sandy clay with frequent rootlets (Topsoil).
	1.80 1.80	D ES					MADE GROUND: Dark brown slightly sandy clayey gravel. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of ceramic, plastic, textiles, paper, and tinsel.
				3.00	93.67		End of Pit at 3.00m

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Trial Pit Photographs



TP108



TP108 Spoil

Remarks: 1. Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP509
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388540.00 - 406272.00 Level: 96.36	Date 08/02/2022
Location: Middleton		Dimensions (m): 2.50 x 0.80 Depth 2.90	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	96.16		MADE GROUND: Dark brown clayey sand with frequent rootlets (Topsoil).
	1.00	ES					MADE GROUND: Dark brown slightly clayey slightly gravelly sand with frequent pockets of orange grey clay. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of wood, tyres, plastic, tin, and metal.
	1.60	B					
				2.90	93.46		End of Pit at 2.90m

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Trial Pit Photographs



TP109



TP109 Spoil

Remarks: 1. Complete.

Stability: Stable

Trial Pit Log

TrialPit No: TP510
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388531.00 - 406278.00 Level: 96.13	Date 08/02/2022
Location: Middleton		Dimensions (m): 2.50 x 0.80 Depth 2.80	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	95.93		MADE GROUND: Dark brown slightly gravelly sandy clay with frequent rootlets (Topsoil).
	0.90	ES					MADE GROUND: Dark brown sandy clayey gravel. Gravel is fine to coarse subangular to subrounded of brick and sandstone with frequent fragments of glass and concrete. (slight hydrocarbon odour at 0.9 m bgl.
				2.50	93.63		MADE GROUND: Grey sandy slight gravelly clay. Gravel is fine to medium subangular to subrounded of brick.
				2.80	93.33		End of Pit at 2.80m

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Trial Pit Photographs



TP110



TP110 Spoil

Remarks: 1. Complete. 2. Slight hydrocarbon odour at 0.9 m bgl. 3. Concrete obstruction in the south of Trial Pit at 1.20 m bgl. 4. Clay to friable for Hand Shear Vane.

Stability: Stable

Trial Pit Log

			TrialPit No TP511 Sheet 1 of 1
Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388582.00 - 406490.00 Level: 103.00	Date 09/02/2022
Location: Middleton		Dimensions (m): Depth 2.70 — 2.50 × 0.80	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
▼ 0.20				0.20	102.80		Dark brown slightly gravelly clayey SAND with frequent rootlets (Topsoil).
	0.80	ES					Brown slightly gravelly clayey SAND. Gravel is fine to coarse subangular to subrounded of sandstone.
				1.20	101.80		
	1.50	B					Orange slightly gravelly clayey SAND. Gravel is fine to medium subangular to subrounded of sandstone.
				2.70	100.30		End of Pit at 2.70m

1 2 3 4

Trial Pit Photographs



TP111



TP111 Spoil

Remarks: 1. Complete. 2. Water strike encountered at 0.2, slow seepage.

Stability: Stable

Trial Pit Log

TrialPit No: TP512
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388615.00 - 406472.00 Level: 103.66	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.00 x 0.80 Depth 2.70	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	103.56		MADE GROUND: Dark brown sandy clay with frequent rootlets (Topsoil).
				0.20	103.46		MADE GROUND: Dark brown slightly clayey slightly gravelly sand. Gravel is fine to coarse subangualar to subrounded of sandstone.
	0.60	ES					Firm brown slightly clayey slightly gravelly SAND. Gravel is fine to coarse subangular to subrounded of sandstone.
				2.70	100.96		End of Pit at 2.70m

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Trial Pit Photographs



TP112



TP112 Spoil

Remarks: 1. Complete.

Stability: Unstable

Trial Pit Log

TrialPit No: TP513
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388627.00 - 406457.00 Level: 101.83	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.50 × 0.80 Depth 2.80	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	101.63		Dark brown slightly sandy CLAY with frequent rootlets (Topsoil).
				0.80	101.03		Greyish brown sandy CLAY.
	1.00 1.00	D ES					Light brown clayey SAND with occasional pockets of organic matter.
	2.00	ES		1.80	100.03		Firm greyish brown slightly sandy silty CLAY.
				2.80	99.03		End of Pit at 2.80m

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Trial Pit Photographs



TP113



TP113 Spoil

Remarks: 1. Complete. 2. Clay to friable for Hand Shear Vane.

Stability: Unstable

Trial Pit Log

TrialPit No: TP514
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388278.00 - 406362.00 Level: 89.50	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.00 x 0.80 Depth 0.30	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
▼ 0.20				0.10	89.40		MADE GROUND: Dark brown sandy gravelly CLAY with frequent rootlets (Topsoil).
				0.30	89.20		MADE GROUND: Dark brown sandy gravelly clay. Gravel is fine to coarse subangular to subrounded of brick and sandstone with frequent fragments of ceramic and plastic.
							End of Pit at 0.30m

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Trial Pit Photographs



TP114

Remarks: 1. Terminated due to fast ingress of water at 0.2 m bgl and concrete foundations at 0.3 m bgl.

Stability: Stable

Trial Pit Log

TrialPit No: TP515
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388236.00 - 406365.00 Level: 89.19	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.00 x 0.80 Depth 1.80	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES		0.10	89.09		MADE GROUND: Dark brown slightly sandy clay with frequent rootlets (Topsoil).
							MADE GROUND: Dark brown slightly sandy clayey gravel. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of concrete and glass.
1.50	1.60	B		1.50	87.69		MADE GROUND: Dark brown slightly silty slightly sandy gravelly clay. Gravel is fine to medium subangualar to subrounded of brick and concrete.
				1.80	87.39		End of Pit at 1.80m

Trial Pit Photographs



TP115



TP115 Spoil

Remarks: 1. Terminated due to fast ingress of water at 1.5 m bgl. 2. Clay to friable for Hand Shear Vane.

Stability: Unstable

Trial Pit Log

TrialPit No: TP516
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388203.00 - 406383.00 Level: 89.24	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.50 x 0.80 Depth 2.10	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.80 0.80	D ES		0.20	89.04		MADE GROUND: Dark brown slightly clayey gravel with frequent rootlets (Topsoil).
							MADE GROUND: Dark brown slightly clayey gravel. Gravel is fine to coarse subangular to subrounded of brick and concrete. (Slight hydrocarbon odour).
▼ 1.30				1.30	87.94		MADE GROUND: Dark brown greyish slightly gravelly clay. Gravel is fine to coarse subangualar to angular of bricks.
	2.00	ES		2.10	87.14		End of Pit at 2.10m

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Trial Pit Photographs



TP116



TP116 Spoil

Remarks: 1. Complete. 2. Water strike at 1.30 m bgl. 3. Concrete foundations at 0.3 m bgl in the eastern part of trial pit. 4. Slight hydrocarbon odour between 0.2 to 1.3 m bgl. 5. Clay to friable for Hand Shear Vane.

Stability: Stable

Trial Pit Log

TrialPit No: TP517
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388315.00 - 406380.00 Level: 89.82	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.50 × 0.80 Depth 2.30	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.40	ES					MADE GROUND: Dark brown slightly clayey sandy gravel. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of concrete and wood.
▼ 0.80							
	1.50	B					
				1.80	88.02		MADE GROUND: Brown slightly clayey very gravelly sand. Gravel is fine to coarse subangular to subrounded of brick, sandstone, and mudstone with frequent fragments of ceramic, concrete, and wood.
				2.30	87.52		End of Pit at 2.30m

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Trial Pit Photographs



TP117



TP117 Spoil

Remarks: 1. Terminated due to water ingress and instability. 2. Water strike encountered at 0.8 m bgl, slow seepage. 3. Concrete foundations in the north of the trail pit at 0.3 m bgl.

Stability: Unstable

Trial Pit Log

TrialPit No: TP518
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388324.00 - 406392.00 Level: 89.72	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.50 × 0.80 Depth 2.30	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30 0.30	D ES		0.10	89.62		MADE GROUND: dark brown slightly clayey gravel with frequent rootlets (Topsoil). MADE GROUND: Dark brown slightly clayey gravel. Gravel is fine to coarse subangular to subrounded of brick with frequent fragments of wood and ceramic.
▼ 0.90				0.90	88.82		Dark brown sandy CLAY.
	1.20	ES		1.00	88.72		Brown slightly clayey very gravelly SAND. Gravel is fine to coarse subangular to subrounded of sandstone and mudstone.
				2.30	87.42		End of Pit at 2.30m

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Trial Pit Photographs



TP118



TP118 Spoil

Remarks: 1. Complete. 2. Water strike encountered at 0.9 m bgl. 3. Clay to friable for Hand Shear Vane.

Stability: Stable

Trial Pit Log

TrialPit No: TP519
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388342.00 - 406347.00 Level: 89.92	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.00 × 0.80, Depth 1.30	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES		0.10	89.82		MADE GROUND: Dark brown sandy gravel with frequent rootlets (Topsoil).
0.60							MADE GROUND: Dark brown sandy gravel. Gravel is fine to coarse subangular to subrounded of brick and sandstone with frequent fragments of plastic, ceramic, buttons, wood, and textiles.
				1.30	88.62		End of Pit at 1.30m

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Trial Pit Photographs



TP119



TP119 Spoil

Remarks: 1. Terminated due to fast ingress of water at 0.6 m bgl.

Stability: Stable

Trial Pit Log

			TrialPit No TP520 Sheet 1 of 1
Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388438.00 - 406368.00 Level: 93.04	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.00 x 0.80 Depth 2.00	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	92.94		MADE GROUND: Dark brown clayey gravel with frequent rootlets (Topsoil).
				0.20	92.84		MADE GROUND: Dark brown clayey gravel. Gravel is fine to coarse subangular to subrounded of concrete and bricks.
0.60	0.70	ES		0.60	92.44		MADE GROUND: Brown gravelly clay. Gravel is fine to coarse subangular to subrounded of brick.
							MADE GROUND: Brown gravelly sand. Gravel is fine to coarse subangular to subrounded of brick, mudstone, sandstone.
				2.00	91.04		End of Pit at 2.00m

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Trial Pit Photographs



TP120



TP120 Spoil

Remarks: 1. Terminated due to ingress of water and instability. 2. Water strike encountered at 0.6 m bgl.

Stability: Unstable

Trial Pit Log

TrialPit No: TP521
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388378.00 - 406365.00 Level: 92.61	Date 09/02/2022
Location: Middleton		Dimensions (m): 2.00 x 0.80 Depth 2.40	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	92.41		MADE GROUND: Dark brown slightly gravelly clay with frequent rootlets (Topsoil).
	0.40	ES					MADE GROUND: Dark brown sandy gravel. Gravel is fine to coarse subangular to subrounded of brick and sandstone with frequent fragments of concrete, glass, and wood.
				1.00	91.61		Light brown gravelly SAND. Gravel is fine to coarse subangular to subrounded of sandstone.
	1.20	B					
1.60				1.60	91.01		Firm brown sandy CLAY.
				2.40	90.21		End of Pit at 2.40m

1 2 3 4

Trial Pit Photographs



TP121



TP121 Spoil

Remarks: 1. Complete. 2. Water strike encountered at 1.6 m bgl. 3. Clay to friable for Hand Shear Vane.

Stability: Unstable

Trial Pit Log

			TrialPit No TP522 Sheet 1 of 1
Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388408.00 - 406362.00 Level: 92.26	Date 09/02/2022
Location: Middleton		Dimensions (m): Depth 2.50 (0.80 x 2.50)	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	92.06		MADE GROUND: Dark brown slightly gravelly clay. With frequent rootlets. (Topsoil).
	0.60	ES		0.50	91.76		MADE GROUND: Dark brown slightly gravelly clay with a band of light brown sand 0.4 to 0.5 m bgl. Gravel is fine to coarse subangular to angular of brick.
▼ 2.00	2.10 2.10	D ES		2.00	90.26		MADE GROUND: Dark brown gravelly sandy clay. Gravel is fine to coarse subangular to subrounded of brick and concrete. (Strong hydrocarbon odour and sheen on water at 2.00 m bgl).
				2.50	89.76		Firm brown slightly sandy CLAY.
							End of Pit at 2.50m

1 2 3 4

Trial Pit Photographs



TP122



TP122 Spoil

Remarks: 1. Complete. 2. Water strike at 2.00 m bgl with sheen and strong hydrocarbon odour. 3. Clay to friable for Hand Shear Vane.

Stability: Stable

Trial Pit Log

TrialPit No: TP523
Sheet 1 of 1

Project Name: Don Street - Supplementary	Project No. 14554..	Co-ords: 388411.00 - 406398.00 Level: 95.90	Date 09/02/2022
Location: Middleton		Dimensions (m): 1.30 x 0.80 Depth 2.40	Scale 1:30
Client: Kellen Homes			Logged H.Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	95.70		MADE GROUND: Dark brown gravelly clay with frequent rootlets (Topsoil).
							MADE GROUND: Dark brown gravelly clay. Gravel is fine to coarse subangular to subrounded of brick.
				1.60	94.30		Light brown clayey SAND.
	1.70	D					
	1.70	ES		1.80	94.10		Firm brown grey CLAY. (Water with sheen at 2.4 m bgl).
	2.00	B					
▼ 2.20							
				2.40	93.50		End of Pit at 2.40m

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Trial Pit Photographs



TP123



TP123 Spoil

Remarks: 1. Complete. 2. Water strike encountered at 2.4 m bgl with sheen.

Stability: Stable

Trial Pit Log

TrialPit No: TP601
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388439.00 - 406332.00 Level: 93.23	Date 08/03/2022
Location: Middleton		Dimensions (m): 1.90 x 0.80 Depth 1.75	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	93.03		MADE GROUND: Asphalt.
							MADE GROUND: Soft grey clay with frequent gravel size brick fragments.
▼ 0.40	0.60	HVP	15				
				1.10	92.13		Greyish brown slightly clayey sandy GRAVEL. Gravel is medium to coarse subangular to subrounded of mudstone.
				1.75	91.48		End of Pit at 1.75m

Remarks: 1. Terminated due to instability. 2. Water strike encountered at 0.40m bgl (Slow ingress).

Stability: Unstable

Trial Pit Log

TrialPit No: TP602
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388428.00 - 406364.00 Level: 93.02	Date 08/03/2022
Location: Middleton		Dimensions (m): 2.00 x 0.80 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
0.00							MADE GROUND: Very soft gravelly clay. Gravel is medium to coarse subangular to subroundedof mudstone and sandstone and frequent gravel sized brick fragments.
				0.60	92.42		Very soft grey mottled brown very sandy CLAY.
0.80							
				2.00	91.02		Greyish brown slightly clayey sandy GRAVEL. Gravel is medium to coarse subangular to subrounded of mudstone.
				2.40	90.62		End of Pit at 2.40m

Remarks: 1. Complete. 2.Water strike at the surface and at 0.80m bgl (Fast ingress).

Stability: Unstable

Trial Pit Log

TrialPit No: TP603
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388416.00 - 406348.00 Level: 92.62	Date 08/03/2022
Location: Middleton		Dimensions (m): 2.80 x 0.80 Depth 2.40	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Black sandy gravelly clay with rare rootlets and frequent cobbles. Gravel is medium to coarse angular to subrounded of mudstone and brick. Cobbles are angular of brick.
				1.60	91.02		
▼ 1.80	2.00	HVP	18				Very soft very low strength grey slightly gravelly sandy CLAY. Gravel is fine to medium subangular to subrounded of mudstone and sandstone.
				2.40	90.22		End of Pit at 2.40m

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Remarks: 1. Complete. 2. Water strike encountered at 1.80m bgl (Fast ingress).

Stability: Stable

Trial Pit Log

TrialPit No: TP604
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388400.00 - 406339.00 Level: 92.64	Date 08/03/2022
Location: Middleton		Dimensions (m): 2.50 × 0.80 Depth 0.75	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	92.44		MADE GROUND: Asphalt.
							MADE GROUND: Grey sandy angular to subrangular fine to coarse gravel of mudstone, sandstone, ash with frequent fragments of brick and clinker.
				0.70	91.94		MADE GROUND: Concrete slab.
				0.75	91.89		End of Pit at 0.75m

Remarks: 1. Terminated due to obstruction. 2. Slight Hydrocarbon odour at 0.2 to 0.70 m bgl.

Stability: Stable

Trial Pit Log

TrialPit No: TP605
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388401.00 - 406381.00 Level: 93.98	Date 08/03/2022
Location: Middleton		Dimensions (m): Depth 2.85 (1.80 × 0.80)	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Soft grey sandy clay with frequent fragments of brick and plastic.
				0.80	93.18		
	1.20	HVP	45				Soft to firm grey slightly gravelly very sandy CLAY. Gravel is fine to medium subangular to subrounded of mudstone and sandstone. (Becoming more gravelly circa 2.60m bgl)
	1.80	HVP	46				
				2.85	91.13		End of Pit at 2.85m

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Remarks: 1. Complete. 2. Gravel content impeaded the use of the Hand Shear Vane beyond 2.00m.

Stability: Unstable

Trial Pit Log

TrialPit No: TP606
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388426.00 - 406403.00 Level: 97.30	Date 08/03/2022
Location: Middleton		Dimensions (m): 2.20 x 0.80 Depth 2.85	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	1.40	HVP	54				Firm medium strength light brown mottled grey very slightly gravelly very sandy CLAY with lens' of fine to medium SAND throughout. Gravel is fine to medium subangular to subrounded of sandstone and mudstone. (Becoming stiff high strength at 2.40m bgl).
	2.00	HVP	60				
	2.40	HVP	91				
▼ 2.60							
				2.85	94.45		End of Pit at 2.85m

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Remarks: 1. Complete. 2. Water strike encountered at 2.60m bgl (Seepage).

Stability: Stable

Trial Pit Log

TrialPit No: TP607
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388382.00 - 406360.00 Level: 93.05	Date 08/03/2022
Location: Middleton		Dimensions (m): 2.50 x 0.80 Depth 1.20	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				1.20	91.85		MADE GROUND: Brown very gravelly slightly sandy CLAY. Gravel is fine to medium subangular of mudstone with frequent brick and concrete fragments. With several concrete paving flags 0.80x0.60m.
							End of Pit at 1.20m

Remarks: 1. Terminated due to instabilty. 2. Gravel content impeaded the use of the Hand Shear Vane.

Stability: Unstable

Trial Pit Log

TrialPit No: TP608
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388396.00 - 406370.00 Level: 93.81	Date 08/03/2022
Location: Middleton		Dimensions (m): Depth 2.60, 2.50 x 0.80	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Dark brown slightly gravelly sandy clay. Gravel is fine to medium subangular to subrounded of sandstone and mudstone, with frequent fragments of brick, clinker and glass.
				1.20	92.61		
	1.50	D					Soft dark grey slightly gravelly CLAY with frequent organic matter. Gravel is fine to medium, angular to sub-angular of mudstone.
▼ 1.80				1.70	92.11		
	2.00	D					Soft dark grey slightly gravelly silty CLAY with rare organic matter. Gravel is fine to medium, angular to sub-angular of mudstone.
				2.60	91.21		End of Pit at 2.60m

Remarks: 1. Complete.

Stability: Unstable

Trial Pit Log

TrialPit No: TP609
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388408.00 - 406366.00 Level: 92.97	Date 08/03/2022
Location: Middleton		Dimensions (m): Depth 2.40 — 2.50 × 0.80	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Black sandy clay with frequent gravel sized fragments of brick, glass, metal pipe and plastic. (Slight hydrocarbon odour)
▼ 0.70				0.60	92.37		
				0.80	92.17		Firm grey mottled brown sandy slightly gravelly CLAY. Gravel is medium medium to coarse angular to subangular of sandstone and mudstone.
	1.00	D					Soft dark grey slightly gravelly CLAY with frequent organic matter. Gravel is fine to medium, angular to sub-angular of mudstone.
				1.40	91.57		Firm grey mottled brown sandy slightly gravelly CLAY. Gravel is medium medium to coarse angular to subangular of sandstone and mudstone.
				2.40	90.57		End of Pit at 2.40m

1 2 3 4 5

Remarks: 1. Complete. 2. Water strike encountered at 0.70m bgl (Moderate ingress). 3. Gravel content impeaded the use of the Hand Shear Vane.

Stability: Unstable

Trial Pit Log

TrialPit No: TP610
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388384.00 - 406336.00 Level: 92.60	Date 08/03/2022
Location: Middleton		Dimensions (m): 2.50 × 0.80 Depth 2.30	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	92.40		MADE GROUND: Asphalt.
							MADE GROUND: Black sandy gravelly clay with occasional cobbles. Gravel is fine to medium suabngular to subrounded of ash, mudstone and sandstone, with frequent fragments of brick and clinker. Cobbles are angular of concrete. (Becoming lighter in colour at depth)
▼ 2.10				2.00	90.60		Dark grey sandy GRAVEL. Gravel is medium to coarse angular to subrounded of mudstone and sandstone.
				2.30	90.30		End of Pit at 2.30m

1 2 3 4 5

Remarks: 1. Terminated due to instability. 2. Water strike encountered at 2.10m bgl (Slow ingress).

Stability: Unstable

Trial Pit Log

TrialPit No: TP611
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388421.00 - 406336.00 Level: 92.69	Date 08/03/2022
Location: Middleton		Dimensions (m): 4.40 x 0.80 Depth 2.50	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Asphalt.
				0.15	92.54		MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is fine to medium of sandstone with frequent fragments of brick, clinker asphalt and concrete. (Becoming slightly clayey circa 1.80m bgl) (Slight hydrocarbon odour from 1.70m bgl)
				2.50	90.19		End of Pit at 2.50m

Remarks: 1. Terminated due to obstruction.

Stability: Stable

Trial Pit Log

TrialPit No: TP612
Sheet 1 of 1

Project Name: Don Street- Parcel A	Project No. 14554.	Co-ords: 388417.00 - 406362.00 Level: 94.46	Date 08/03/2022
Location: Middleton		Dimensions (m): Depth 2.40 — 2.00 × 0.80	Scale 1:24
Client: Kellen Homes			Logged G.Calvert

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	94.31		MADE GROUND: Asphalt.
							MADE GROUND: Dark brown slightly clayey gravelly fine to coarse sand. Gravel is fine to medium of sandstone with frequent fragments of brick, clinker asphalt, glass and concrete.
▼ 1.20				1.30	93.16		
	1.50	HVP	15				Very soft very low strength very gravelly CLAY with occasional cobbles. Gravel is fine to medium angular to subrounded of sandstone and mudstone. Cobbles are subangular of sandstone.
				2.00	92.46		Soft low strength brown CLAY.
	2.20	HVP	22				
				2.40	92.06		End of Pit at 2.40m

Remarks: 1. Complete. 2. Water strike encountered at 1.20m bgl (Moderate ingress).

Stability: Unstable

Trial Pit Log

TrialPit No: TP701
Sheet 1 of 1

Project Name: Don Street - May Further Works	Project No. 14554...	Co-ords: 388420.00 - 406341.00 Level: 92.59	Date 10/05/2022
Location: Middleton		Dimensions (m): 2.00 x 1.00 Depth 2.90	Scale 1:30
Client: Kellen Homes			Logged H. Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.40	ES					MADE GROUND: Dark brown blackish slightly sandy gravelly clay. Gravel is fine to coarse subangular to subrounded of sandstone with frequent fragments of metal, wood, concrete and whole bricks.
▼ 1.90				1.80 1.90	90.79 90.69		Dark brown gravelly CLAY with organic matter throughout. Gravel is fine to medium subangular to subrounded of sandstone and mudstone.
				2.50	90.09		Very soft dark brown slightly gravelly sandy CLAY with some organic matter throughout. Gravel is fine to coarse subrounded to rounded of sandstone.
				2.90	89.69		Very soft brown silty sandy CLAY.
							End of Pit at 2.90m

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Trial Pit Photographs



Trial Pit 701



Trial Pit 701 Spoil

Remarks: 1. Terminated due to water ingress. 2. Water strike encountered at 1.90 m bgl, slow seepage. 3. Clay too friable for Hand Shear Vane.

Stability: Stable

Trial Pit Log

TrialPit No: TP702
Sheet 1 of 1

Project Name: Don Street - May Further Works	Project No. 14554...	Co-ords: 388405.00 - 406362.00 Level: 92.74	Date 10/05/2022
Location: Middleton		Dimensions (m): 2.00 x 1.00 Depth 2.80	Scale 1:30
Client: Kellen Homes			Logged H. Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	92.44		MADE GROUND: Dark brown gravelly clay with some rootlets. Gravel is fine to coarse subangular to subrounded of brick. (reworked topsoil).
	0.60	ES					MADE GROUND: Dark brown gravelly CLAY. Gravel is fine to coarse subangular to subrounded of sandstone, concrete and whole bricks.
▼ 1.40				1.40	91.34		
				1.60	91.14		MADE GROUND: Light brown slightly gravelly clayey sand. Gravel is fine to coarse subangular to subrounded of sandstone and brick.
				2.10	90.64		Brown slightly clayey fine to medium SAND.
				2.80	89.94		Soft brown slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded of sandstone.
							End of Pit at 2.80m

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Trial Pit Photographs



Trial Pit 702



Trial Pit 702 Spoil

Remarks: 1. Terminated due to water ingress. 2. Water strike encountered at 1.40 m bgl. 3. Clay to friable for Hand Shear Vane.

Stability: Unstable

Trial Pit Log

TrialPit No: TP703
Sheet 1 of 1

Project Name: Don Street - May Further Works	Project No. 14554...	Co-ords: 388417.00 - 406386.00 Level: 94.01	Date 10/05/2022
Location: Middleton		Dimensions (m): 2.00 x 1.00 Depth 2.20	Scale 1:30
Client: Kellen Homes			Logged H. Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES		0.20	93.81		MADE GROUND: Dark brown gravelly clay with some rootlets. Gravel is fine to coarse subangular to subrounded of brick. (reworked topsoil).
				0.50	93.51		MADE GROUND: Dark brown gravelly clay. Gravel is fine to coarse subangular to subrounded of sandstone and brick.
							Firm to siff light brown CLAY.
				1.50	92.51		Soft sandy CLAY.
				1.80	92.21		Silty fine to medium SAND.
▼ 2.20				2.20	91.81		End of Pit at 2.20m

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4

Trial Pit Photographs



Trial Pit 703



Trial Pit 703 Spoil

Remarks: 1. Complete. 2. Water strike encountered at 2.20 m bgl. 3. Running sand encountered at 2.20 m bgl. 4. Clay to friable for Hand Shear Vane.

Stability: Stable

Trial Pit Log

TrialPit No: TP704
Sheet 1 of 1

Project Name: Don Street - May Further Works	Project No. 14554...	Co-ords: 388390.00 - 406359.00 Level: 92.78	Date 10/05/2022
Location: Middleton		Dimensions (m): 2.00 x 1.00 Depth 1.50	Scale 1:30
Client: Kellen Homes			Logged H. Mason

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	92.58		MADE GROUND: Dark brown gravelly clay with some rootlets. Gravel is fine to coarse subangular to subrounded of brick. (reworked topsoil).
							MADE GROUND: Dark brown gravelly clay. Gravel is fine to coarse subangular to subrounded of sandstone with frequent fragments of brick, plastic and metal.
				1.10	91.68		MADE GROUND: Dark brown blackish gravel. Gravel is fine to coarse subangular to subrouded of brick, concrete, clinker and sandstone. (hydrocarbon odour)
1.40	1.40	ES		1.50	91.28		End of Pit at 1.50m

Trial Pit Photographs



Trial Pit 704



Trial Pit 704 Spoil

Remarks: 1. Terminated due to concrete base. 2. Water strike encountered at 1.40 m bgl, slow seepage. 3. Hydrocarbon odour from 1.10 - 1.50 m bgl.

Stability: Stable

APPENDIX V – P20 RTM SHEETS

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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The calculation of equations in this worksheet has been independently checked by Entec (UK) Ltd on behalf of the Environment Agency.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions).

Details to be completed for each assessment

Site Name:	**Don Street**			
Site Address:	**Don Street, Middleton, M24 2GG**			
Completed by:	**Nicola Sellars**			
Date:	**17-Jan-23**		**Version:**	**1**
Contaminant	**Arsenic**			
Target Concentration (C_T)	**0.001**	**mg/l**	**Origin of C_T:**	**Conservative Value**

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Arsenic**		
Target concentration	**C_T**	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	
Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Arsenic**	from Level 1	This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).
Target concentration	C_T	**0.001** mg/l	from Level 1	

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	Variable	Value	Unit	Source of parameter value	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	7.30E+00	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.90E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	6.94E+00	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.36E+02**		
Level 2 Remedial Target		**2.36E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentration.**
		or		
		1.18E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Input Parameters

	Variable	Value	Unit	Source
Contaminant		Arsenic		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.36E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: Apply degradation rate to dissolved pollutants only

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		140	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	6.94E+00	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.91E-02	fraction	from Level 2 (adiusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters

	Variable		
Groundwater flow velocity	v	3.43E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.91E-02	fraction
Rate of contaminant flow due to retardation	u	3.14E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	2.80E-01	mg/l

Remedial Targets

Level 3 Remedial Target	**2.55E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks	**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
	1.28E+02	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point	**10**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	**C_{ED}/C_0 9.23E-01**	**fraction**	Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)

Soil water partition coefficient	Kd	5.00E+02	l/kg

Entry for non-polar organic chemicals (option)

Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg

Entry for ionic organic chemicals (option)

Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	5.00E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

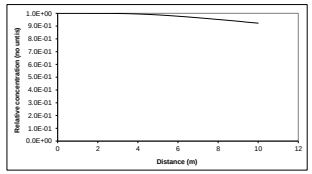
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

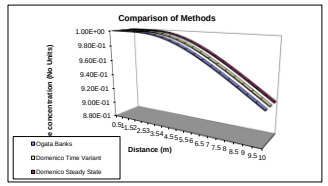
Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	#######
Version:	1

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration	Concentration
	(No units)	mg/l
0	1.0E+00	1.19E-03
0.5	1.00E+00	1.19E-03
1.0	1.00E+00	1.19E-03
1.5	1.00E+00	1.19E-03
2.0	1.00E+00	1.19E-03
2.5	1.00E+00	1.19E-03
3.0	9.99E-01	1.19E-03
3.5	9.97E-01	1.18E-03
4.0	9.95E-01	1.18E-03
4.5	9.92E-01	1.18E-03
5.0	9.88E-01	1.17E-03
5.5	9.83E-01	1.17E-03
6.0	9.78E-01	1.16E-03
6.5	9.72E-01	1.15E-03
7.0	9.65E-01	1.15E-03
7.5	9.59E-01	1.14E-03
8.0	9.52E-01	1.13E-03
8.5	9.45E-01	1.12E-03
9.0	9.38E-01	1.11E-03
9.5	9.30E-01	1.10E-03
10.0	9.23E-01	1.10E-03



Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment				
Site Name:	Don Street			
Site Address:	Don Street, Middleton, M24 2GG			
Completed by:	Nicola Sellars			
Date:	17-Jan-23		Version:	1
Contaminant	Copper			
Target Concentration (C_T)	0.001	mg/l	Origin of C_T:	EQS

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Copper**		
Target concentration	C_T	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	
Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Copper**		from Level 1
Target concentration	C_T	**0.001**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	7.30E+00	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.90E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	6.94E+00	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.36E+02**		
Level 2 Remedial Target		**2.36E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.18E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters

	Variable	Value	Unit	Source
Contaminant		Copper		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.36E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		150	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	6.94E+00	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.91E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters

	Variable		
Groundwater flow velocity	v	3.43E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.91E-02	fraction
Rate of contaminant flow due to retardation	u	3.14E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	3.00E-01	mg/l

Remedial Targets

Level 3 Remedial Target	**2.55E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks	**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
	1.28E+02	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point	**10**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration C_{ED}/C_0	**9.23E-01**	**fraction**	Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)

Soil water partition coefficient	Kd	5.00E+02	l/kg

Entry for non-polar organic chemicals (option)

Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg

Entry for ionic organic chemicals (option)

Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{w,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction

Soil water partition coefficient	Kd	5.00E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

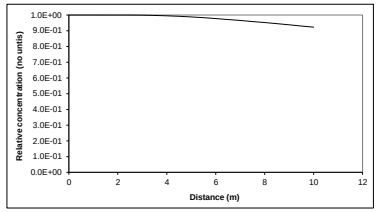
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	########
Version:	1

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	1.27E-03
0.5	1.00E+00	1.27E-03
1.0	1.00E+00	1.27E-03
1.5	1.00E+00	1.27E-03
2.0	1.00E+00	1.27E-03
2.5	1.00E+00	1.27E-03
3.0	9.99E-01	1.27E-03
3.5	9.97E-01	1.27E-03
4.0	9.95E-01	1.27E-03
4.5	9.92E-01	1.26E-03
5.0	9.88E-01	1.26E-03
5.5	9.83E-01	1.25E-03
6.0	9.78E-01	1.24E-03
6.5	9.72E-01	1.24E-03
7.0	9.65E-01	1.23E-03
7.5	9.59E-01	1.22E-03
8.0	9.52E-01	1.21E-03
8.5	9.45E-01	1.20E-03
9.0	9.38E-01	1.19E-03
9.5	9.30E-01	1.18E-03
10.0	9.23E-01	1.17E-03

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment

Site Name:	**Don Street**			
Site Address:	**Don Street, Middleton, M24 2GG**			
Completed by:	**Nicola Sellars**			
Date:	**17-Jan-23**		**Version:**	**1**
Contaminant	**Cyanide**			
Target Concentration (C_T)	**0.001**	**mg/l**	**Origin of C_T:**	**EQS**

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Cyanide**		
Target concentration	C_T	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Cyanide**		from Level 1
Target concentration	C_T	**0.001**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	7.30E+00	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.90E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	6.94E+00	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.36E+02**		
Level 2 Remedial Target		**2.36E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.18E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters	Variable	Value	Unit	Source
Contaminant		Cyanide		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.36E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		150	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	6.94E+00	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.91E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters	Variable		
Groundwater flow velocity	v	3.43E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.91E-02	fraction
Rate of contaminant flow due to retardation	u	3.14E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	3.00E-01	mg/l

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)

Soil water partition coefficient — Kd — 5.00E+02 l/kg

Entry for non-polar organic chemicals (option)

Fraction of organic carbon in aquifer — foc — fraction

Organic carbon partition coefficient — Koc — l/kg

Entry for ionic organic chemicals (option)

Sorption coefficient for related species — $K_{oc,n}$ — l/kg

Sorption coefficient for ionised species — $K_{w,i}$ — l/kg

pH value — pH

Acid dissociation constant — pKa

Fraction of organic carbon in aquifer — foc — fraction

Soil water partition coefficient — Kd — 5.00E+02 — l/kg

Define dispersivity (click brown cell and use pull down list)

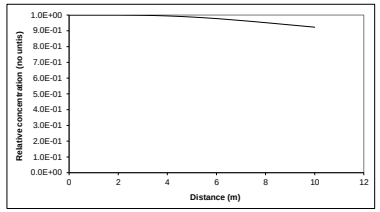
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	1.27E-03
0.5	1.00E+00	1.27E-03
1.0	1.00E+00	1.27E-03
1.5	1.00E+00	1.27E-03
2.0	1.00E+00	1.27E-03
2.5	1.00E+00	1.27E-03
3.0	9.99E-01	1.27E-03
3.5	9.97E-01	1.27E-03
4.0	9.95E-01	1.27E-03
4.5	9.92E-01	1.26E-03
5.0	9.88E-01	1.26E-03
5.5	9.83E-01	1.25E-03
6.0	9.78E-01	1.24E-03
6.5	9.72E-01	1.24E-03
7.0	9.65E-01	1.23E-03
7.5	9.59E-01	1.22E-03
8.0	9.52E-01	1.21E-03
8.5	9.45E-01	1.20E-03
9.0	9.38E-01	1.19E-03
9.5	9.30E-01	1.18E-03
10.0	9.23E-01	1.17E-03

Remedial Targets

Level 3 Remedial Target		**2.55E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks		**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
		1.28E+02	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point		**10**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	**9.23E-01**	**fraction**	Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	########
Version:	1

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment

Site Name:	**Don Street**			
Site Address:	**Don Street, Middleton, M24 2GG**			
Completed by:	**Nicola Sellars**			
Date:	**17-Jan-23**		**Version:**	**1**
Contaminant	**Lead**			
Target Concentration (C_T)	**0.0012**	**mg/l**	**Origin of C_T:**	**EQS**

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Lead**		
Target concentration	C_T	**0.0012**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	

Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**6.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.0012	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Lead**		from Level 1
Target concentration	C_T	**0.0012**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	7.30E+00	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.90E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	6.94E+00	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.36E+02**		
Level 2 Remedial Target		**2.83E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.41E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters

	Variable	Value	Unit	Source
Contaminant		Lead		from Level 1
Target Concentration	C_T	0.0012	mg/l	from Level 1
Dilution Factor	DF	2.36E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		420	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	6.94E+00	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.91E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters

	Variable		
Groundwater flow velocity	v	3.43E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.91E-02	fraction
Rate of contaminant flow due to retardation	u	3.14E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	8.40E-01	mg/l

Remedial Targets

Level 3 Remedial Target	**3.06E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks	**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
	1.53E+02	**mg/kg**	For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Distance to compliance point	**10**	**m**	
Ratio of Compliance Point to Source Concentration C_{ED}/C_0	**9.23E-01**	**fraction**	Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)

Soil water partition coefficient — Kd — 5.00E+02 l/kg

Entry for non-polar organic chemicals (option)

Fraction of organic carbon in aquifer — foc — fraction
Organic carbon partition coefficient — Koc — l/kg

Entry for ionic organic chemicals (option)

Sorption coefficient for related species — $K_{oc,n}$ — l/kg
Sorption coefficient for ionised species — $K_{w,i}$ — l/kg
pH value — pH
Acid dissociation constant — pKa
Fraction of organic carbon in aquifer — foc — fraction

Soil water partition coefficient — Kd — 5.00E+02 l/kg

Define dispersivity (click brown cell and use pull down list)

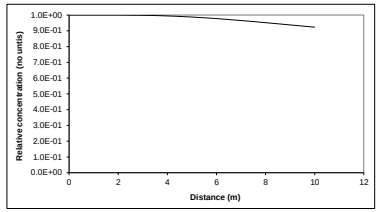
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	########
Version:	1

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	3.56E-03
0.5	1.00E+00	3.56E-03
1.0	1.00E+00	3.56E-03
1.5	1.00E+00	3.56E-03
2.0	1.00E+00	3.56E-03
2.5	1.00E+00	3.56E-03
3.0	9.99E-01	3.56E-03
3.5	9.97E-01	3.55E-03
4.0	9.95E-01	3.54E-03
4.5	9.92E-01	3.53E-03
5.0	9.88E-01	3.52E-03
5.5	9.83E-01	3.50E-03
6.0	9.78E-01	3.48E-03
6.5	9.72E-01	3.46E-03
7.0	9.65E-01	3.44E-03
7.5	9.59E-01	3.42E-03
8.0	9.52E-01	3.39E-03
8.5	9.45E-01	3.37E-03
9.0	9.38E-01	3.34E-03
9.5	9.30E-01	3.31E-03
10.0	9.23E-01	3.29E-03

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment				
Site Name:	Don Street			
Site Address:	Don Street, Middleton, M24 2GG			
Completed by:	Nicola Sellars			
Date:	17-Jan-23		Version:	1
Contaminant	Mercury			
Target Concentration (C_T)	0.001	mg/l	Origin of C_T:	EQS

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Mercury**		
Target concentration	C_T	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	

Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Mercury**		from Level 1
Target concentration	C_T	**0.001**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	7.30E+00	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.90E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	6.94E+00	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.36E+02**		
Level 2 Remedial Target		**2.36E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.18E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters	Variable	Value	Unit	Source
Contaminant		Mercury		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.36E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		4.5	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	6.94E+00	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.91E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters	Variable		
Groundwater flow velocity	v	3.43E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.91E-02	fraction
Rate of contaminant flow due to retardation	u	3.14E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	9.00E-03	mg/l

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)			
Soil water partition coefficient	Kd	5.00E+02	l/kg
Entry for non-polar organic chemicals (option)			
Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg
Entry for ionic organic chemicals (option)			
Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	5.00E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

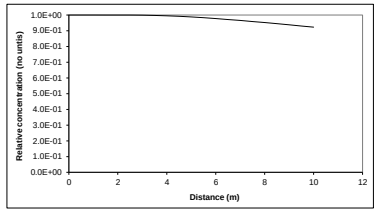
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	3.82E-05
0.5	1.00E+00	3.82E-05
1.0	1.00E+00	3.82E-05
1.5	1.00E+00	3.82E-05
2.0	1.00E+00	3.82E-05
2.5	1.00E+00	3.82E-05
3.0	9.99E-01	3.81E-05
3.5	9.97E-01	3.81E-05
4.0	9.95E-01	3.80E-05
4.5	9.92E-01	3.78E-05
5.0	9.88E-01	3.77E-05
5.5	9.83E-01	3.75E-05
6.0	9.78E-01	3.73E-05
6.5	9.72E-01	3.71E-05
7.0	9.65E-01	3.68E-05
7.5	9.59E-01	3.66E-05
8.0	9.52E-01	3.63E-05
8.5	9.45E-01	3.61E-05
9.0	9.38E-01	3.58E-05
9.5	9.30E-01	3.55E-05
10.0	9.23E-01	3.52E-05

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.E+99.

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	########
Version:	1

Remedial Targets

Level 3 Remedial Target		**2.55E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks		**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
		1.28E+02	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point		**10**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	**9.23E-01**	**fraction**	Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions).

Details to be completed for each assessment

Site Name:	**Don Street**			
Site Address:	**Don Street, Middleton, M24 2GG**			
Completed by:	**Nicola Sellars**			
Date:	**17-Jan-23**		**Version:**	**1**
Contaminant	**Zinc**			
Target Concentration (C_T)	**0.001**	**mg/l**	**Origin of C_T:**	**Conservative Value**

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Zinc**		
Target concentration	C_T	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	
Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Zinc**	from Level 1	This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).
Target concentration	C_T	**0.001** **mg/l**	from Level 1	

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters

	Variable	Value	Unit	Source of parameter value	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	7.30E+00	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.90E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	6.94E+00	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.36E+02**		
Level 2 Remedial Target		**2.36E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentration.**
		or		
		1.18E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters

	Variable	Value	Unit	Source
Contaminant		Zinc		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.36E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: Apply degradation rate to dissolved pollutants only

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		1600	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	6.94E+00	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.91E-02	fraction	from Level 2 (adiusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters

	Variable		
Groundwater flow velocity	v	3.43E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.91E-02	fraction
Rate of contaminant flow due to retardation	u	3.14E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	3.20E+00	mg/l

Remedial Targets

Level 3 Remedial Target	**2.55E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks	**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
	1.28E+02	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point	**10**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	**C_{ED}/C_0** **9.23E-01**	**fraction**	Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)

Soil water partition coefficient	Kd	5.00E+02	l/kg

Entry for non-polar organic chemicals (option)

Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg

Entry for ionic organic chemicals (option)

Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	5.00E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

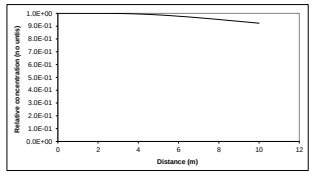
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

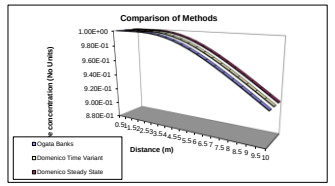
Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Don Street
Completed by:	Nicola Sellars
Date:	#######
Version:	1

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	1.36E-02
0.5	1.00E+00	1.36E-02
1.0	1.00E+00	1.36E-02
1.5	1.00E+00	1.36E-02
2.0	1.00E+00	1.36E-02
2.5	1.00E+00	1.36E-02
3.0	9.99E-01	1.36E-02
3.5	9.97E-01	1.35E-02
4.0	9.95E-01	1.35E-02
4.5	9.92E-01	1.35E-02
5.0	9.88E-01	1.34E-02
5.5	9.83E-01	1.33E-02
6.0	9.78E-01	1.33E-02
6.5	9.72E-01	1.32E-02
7.0	9.65E-01	1.31E-02
7.5	9.59E-01	1.30E-02
8.0	9.52E-01	1.29E-02
8.5	9.45E-01	1.28E-02
9.0	9.38E-01	1.27E-02
9.5	9.30E-01	1.26E-02
10.0	9.23E-01	1.25E-02



Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment				
Site Name:	Don Street - SA2			
Site Address:	Don Street, Middleton, M24 2GG			
Completed by:	Nicola Sellars			
Date:	17-Jan-23		Version:	1
Contaminant	Arsenic			
Target Concentration (C_T)	0.001	mg/l	Origin of C_T:	Conservative Value

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Arsenic**		
Target concentration	C_T	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	

Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Arsenic**		from Level 1
Target concentration	C_T	**0.001**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5 m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	1.20E+01	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.20E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	1.14E+01	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.94E+02**		
Level 2 Remedial Target		**2.94E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.47E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters	Variable	Value	Unit	Source
Contaminant		Arsenic		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.94E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		320	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	1.14E+01	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.21E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters	Variable		
Groundwater flow velocity	v	2.60E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.21E-02	fraction
Rate of contaminant flow due to retardation	u	2.38E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	6.40E-01	mg/l

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)			
Soil water partition coefficient	Kd	5.00E+02	l/kg
Entry for non-polar organic chemicals (option)			
Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg
Entry for ionic organic chemicals (option)			
Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	5.00E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

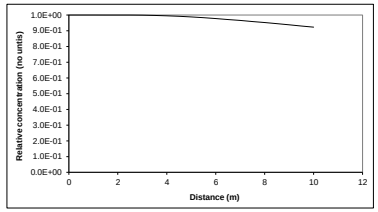
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	2.18E-03
0.5	1.00E+00	2.18E-03
1.0	1.00E+00	2.18E-03
1.5	1.00E+00	2.18E-03
2.0	1.00E+00	2.18E-03
2.5	1.00E+00	2.18E-03
3.0	9.99E-01	2.18E-03
3.5	9.97E-01	2.17E-03
4.0	9.95E-01	2.17E-03
4.5	9.92E-01	2.16E-03
5.0	9.88E-01	2.15E-03
5.5	9.83E-01	2.14E-03
6.0	9.78E-01	2.13E-03
6.5	9.72E-01	2.12E-03
7.0	9.65E-01	2.10E-03
7.5	9.59E-01	2.09E-03
8.0	9.52E-01	2.07E-03
8.5	9.45E-01	2.06E-03
9.0	9.38E-01	2.04E-03
9.5	9.30E-01	2.03E-03
10.0	9.23E-01	2.01E-03

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	########
Version:	1

Remedial Targets

Level 3 Remedial Target		**3.18E-01**	**mg/l**
Ogata Banks		**or**	
		1.59E+02	**mg/kg**
Distance to compliance point		**10**	**m**
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	**9.23E-01**	**fraction**

For comparison with measured pore water concentration.
This assumes Level 1 Remedial Target is based on Target Concentration.
For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment

Site Name:	**Don Street - SA2**			
Site Address:	**Don Street, Middleton, M24 2GG**			
Completed by:	**Nicola Sellars**			
Date:	**17-Jan-23**		**Version:**	**1**
Contaminant	**Copper**			
Target Concentration (C_T)	**0.001**	**mg/l**	**Origin of C_T:**	**EQS**

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Copper**		
Target concentration	C_T	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	
Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Copper**		from Level 1
Target concentration	C_T	**0.001**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5 m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	1.20E+01	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.20E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	1.14E+01	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.94E+02**		
Level 2 Remedial Target		**2.94E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.47E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters	Variable	Value	Unit	Source
Contaminant		Copper		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.94E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		3600	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	1.14E+01	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.21E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters	Variable		
Groundwater flow velocity	v	2.60E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.21E-02	fraction
Rate of contaminant flow due to retardation	u	2.38E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	7.20E+00	mg/l

Remedial Targets

Level 3 Remedial Target		**3.18E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks		**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
		1.59E+02	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point		**10**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	**9.23E-01**	**fraction**	Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)			
Soil water partition coefficient	Kd	5.00E+02	l/kg
Entry for non-polar organic chemicals (option)			
Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg
Entry for ionic organic chemicals (option)			
Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	5.00E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

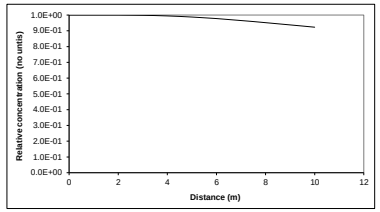
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	########
Version:	1

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	2.45E-02
0.5	1.00E+00	2.45E-02
1.0	1.00E+00	2.45E-02
1.5	1.00E+00	2.45E-02
2.0	1.00E+00	2.45E-02
2.5	1.00E+00	2.45E-02
3.0	9.99E-01	2.45E-02
3.5	9.97E-01	2.44E-02
4.0	9.95E-01	2.44E-02
4.5	9.92E-01	2.43E-02
5.0	9.88E-01	2.42E-02
5.5	9.83E-01	2.41E-02
6.0	9.78E-01	2.40E-02
6.5	9.72E-01	2.38E-02
7.0	9.65E-01	2.37E-02
7.5	9.59E-01	2.35E-02
8.0	9.52E-01	2.33E-02
8.5	9.45E-01	2.32E-02
9.0	9.38E-01	2.30E-02
9.5	9.30E-01	2.28E-02
10.0	9.23E-01	2.26E-02

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment				
Site Name:	Don Street - SA2			
Site Address:	Don Street, Middleton, M24 2GG			
Completed by:	Nicola Sellars			
Date:	17-Jan-23		Version:	1
Contaminant	Cyanide			
Target Concentration (C_T)	0.001	mg/l	Origin of C_T:	EQS

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Cyanide**		
Target concentration	C_T	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	

Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Cyanide**		from Level 1
Target concentration	C_T	**0.001**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5 m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	1.20E+01	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.20E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	1.14E+01	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.94E+02**		
Level 2 Remedial Target		**2.94E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.47E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters	Variable	Value	Unit	Source
Contaminant		Cyanide		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.94E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		37	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	1.14E+01	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.21E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters	Variable		
Groundwater flow velocity	v	2.60E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.21E-02	fraction
Rate of contaminant flow due to retardation	u	2.38E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	7.40E-02	mg/l

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)			
Soil water partition coefficient	Kd	5.00E+02	l/kg
Entry for non-polar organic chemicals (option)			
Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg
Entry for ionic organic chemicals (option)			
Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	5.00E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

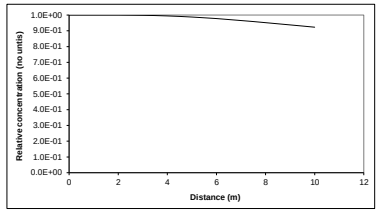
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	2.52E-04
0.5	1.00E+00	2.52E-04
1.0	1.00E+00	2.52E-04
1.5	1.00E+00	2.52E-04
2.0	1.00E+00	2.52E-04
2.5	1.00E+00	2.52E-04
3.0	9.99E-01	2.52E-04
3.5	9.97E-01	2.51E-04
4.0	9.95E-01	2.51E-04
4.5	9.92E-01	2.50E-04
5.0	9.88E-01	2.49E-04
5.5	9.83E-01	2.48E-04
6.0	9.78E-01	2.46E-04
6.5	9.72E-01	2.45E-04
7.0	9.65E-01	2.43E-04
7.5	9.59E-01	2.41E-04
8.0	9.52E-01	2.40E-04
8.5	9.45E-01	2.38E-04
9.0	9.38E-01	2.36E-04
9.5	9.30E-01	2.34E-04
10.0	9.23E-01	2.32E-04

Remedial Targets

Level 3 Remedial Target		**3.18E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks		**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
		1.59E+02	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point		**10**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	**9.23E-01**	**fraction**	Ogata Banks

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	########
Version:	1

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment				
Site Name:	Don Street - SA2			
Site Address:	Don Street, Middleton, M24 2GG			
Completed by:	Nicola Sellars			
Date:	17-Jan-23		Version:	1
Contaminant	Lead			
Target Concentration (C_T)	0.0012	mg/l	Origin of C_T:	EQS

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Environment Agency

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Lead**		
Target concentration	**C_T**	**0.0012**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	
Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**6.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.0012	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Lead**		from Level 1
Target concentration	C_T	**0.0012**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5 m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	1.20E+01	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.20E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	1.14E+01	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.94E+02**		
Level 2 Remedial Target		**3.52E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.76E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters

	Variable	Value	Unit	Source
Contaminant		Lead		from Level 1
Target Concentration	C_T	0.0012	mg/l	from Level 1
Dilution Factor	DF	2.94E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		3100	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	1.14E+01	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.21E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters

	Variable		
Groundwater flow velocity	v	2.60E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.21E-02	fraction
Rate of contaminant flow due to retardation	u	2.38E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	6.20E+00	mg/l

Remedial Targets

Level 3 Remedial Target	**3.82E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks	**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
	1.91E+02	**mg/kg**	For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Distance to compliance point	**10**	**m**	Ogata Banks
Ratio of Compliance Point to Source Concentration C_{ED}/C_0	**9.23E-01**	**fraction**	

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)

Soil water partition coefficient — Kd — 5.00E+02 l/kg

Entry for non-polar organic chemicals (option)

Fraction of organic carbon in aquifer — foc — fraction
Organic carbon partition coefficient — Koc — l/kg

Entry for ionic organic chemicals (option)

Sorption coefficient for related species — $K_{oc,n}$ — l/kg
Sorption coefficient for ionised species — $K_{w,i}$ — l/kg
pH value — pH
Acid dissociation constant — pKa
Fraction of organic carbon in aquifer — foc — fraction

Soil water partition coefficient — Kd — 5.00E+02 l/kg

Define dispersivity (click brown cell and use pull down list)

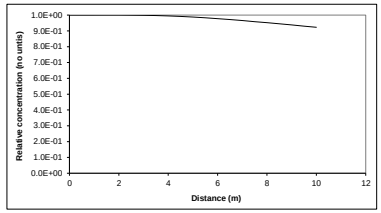
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	########
Version:	1

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	2.11E-02
0.5	1.00E+00	2.11E-02
1.0	1.00E+00	2.11E-02
1.5	1.00E+00	2.11E-02
2.0	1.00E+00	2.11E-02
2.5	1.00E+00	2.11E-02
3.0	9.99E-01	2.11E-02
3.5	9.97E-01	2.10E-02
4.0	9.95E-01	2.10E-02
4.5	9.92E-01	2.09E-02
5.0	9.88E-01	2.08E-02
5.5	9.83E-01	2.07E-02
6.0	9.78E-01	2.06E-02
6.5	9.72E-01	2.05E-02
7.0	9.65E-01	2.04E-02
7.5	9.59E-01	2.02E-02
8.0	9.52E-01	2.01E-02
8.5	9.45E-01	1.99E-02
9.0	9.38E-01	1.98E-02
9.5	9.30E-01	1.96E-02
10.0	9.23E-01	1.95E-02

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment				
Site Name:	Don Street - SA2			
Site Address:	Don Street, Middleton, M24 2GG			
Completed by:	Nicola Sellars			
Date:	17-Jan-23		Version:	1
Contaminant	Mercury			
Target Concentration (C_T)	0.001	mg/l	Origin of C_T:	DWS

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Mercury**		
Target concentration	C_T	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	
Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Mercury**		from Level 1
Target concentration	C_T	**0.001**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5 m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	1.20E+01	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.20E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	1.14E+01	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.94E+02**		
Level 2 Remedial Target		**2.94E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.47E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters

	Variable	Value	Unit	Source
Contaminant		Mercury		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.94E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		7.8	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	1.14E+01	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.21E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters

	Variable		
Groundwater flow velocity	v	2.60E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.21E-02	fraction
Rate of contaminant flow due to retardation	u	2.38E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	1.56E-02	mg/l

Remedial Targets

Level 3 Remedial Target	**3.18E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks	**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
	1.59E+02	**mg/kg**	For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Distance to compliance point	**10**	**m**	Ogata Banks
Ratio of Compliance Point to Source Concentration C_{ED}/C_0	**9.23E-01**	**fraction**	

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)

Soil water partition coefficient	Kd	5.00E+02	l/kg

Entry for non-polar organic chemicals (option)

Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg

Entry for ionic organic chemicals (option)

Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	5.00E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

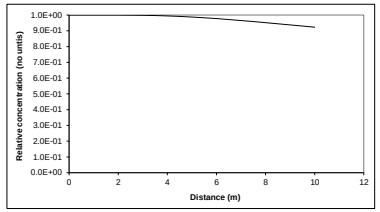
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	########
Version:	1

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	5.31E-05
0.5	1.00E+00	5.31E-05
1.0	1.00E+00	5.31E-05
1.5	1.00E+00	5.31E-05
2.0	1.00E+00	5.31E-05
2.5	1.00E+00	5.31E-05
3.0	9.99E-01	5.30E-05
3.5	9.97E-01	5.29E-05
4.0	9.95E-01	5.28E-05
4.5	9.92E-01	5.27E-05
5.0	9.88E-01	5.24E-05
5.5	9.83E-01	5.22E-05
6.0	9.78E-01	5.19E-05
6.5	9.72E-01	5.16E-05
7.0	9.65E-01	5.13E-05
7.5	9.59E-01	5.09E-05
8.0	9.52E-01	5.05E-05
8.5	9.45E-01	5.02E-05
9.0	9.38E-01	4.98E-05
9.5	9.30E-01	4.94E-05
10.0	9.23E-01	4.90E-05

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment

Site Name:	**Don Street - SA2**			
Site Address:	**Don Street, Middleton, M24 2GG**			
Completed by:	**Nicola Sellars**			
Date:	**17-Jan-23**		**Version:**	**1**
Contaminant	**Naphthalene**			
Target Concentration (C_T)	**0.002**	**mg/l**	**Origin of C_T:**	**EQS**

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

Calculate for non-polar organic chemicals

Contaminant		**Naphthalene**		
Target concentration	C_T	**0.002**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd		l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc	2.73E-02	fraction	site soil data
Organic carbon partition coefficient	Koc	2.51E+03	l/kg	*EA Guidance*
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	
Soil water partition coefficient used in Level Assessment	**Kd**	**6.85E+01**	**l/kg**	*Calculated value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**1.37E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.002	**mg/l**	**(for comparison with leachate test results)**

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 2 - Soil

Contaminant		**Naphthalene**		from Level 1
Target concentration	C_T	**0.002**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5 m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	1.20E+01	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.20E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	1.14E+01	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.94E+02**		
Level 2 Remedial Target		**5.87E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		4.04E+01	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	17-Jan-23
Version:	1

Remedial Targets Worksheet , Release 3.2

Level 3 - Soil

See Note

Environment Agency

Input Parameters	Variable	Value	Unit	Source
Contaminant		Naphthalene		from Level 1
Target Concentration	C_T	0.002	mg/l	from Level 1
Dilution Factor	DF	2.94E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		14	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	2.58E+02	days	
Calculated decay rate	λ	2.69E-03	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	1.14E+01	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.21E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	6.85E+01	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters	Variable		
Groundwater flow velocity	v	2.60E-01	m/d
Retardation factor	Rf	1.51E+02	fraction
Decay rate used	λ	1.78E-05	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.21E-02	fraction
Rate of contaminant flow due to retardation	u	1.72E-03	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	8.33E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.20E+00**	**fraction**
Calculated soil leachate concentration	Co	2.04E-01	mg/l

Remedial Targets

Level 3 Remedial Target		**7.05E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks		**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
		4.84E+01	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point		**10**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	**8.33E-01**	**fraction**	Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

Enter method of defining partition co-efficient (using pull down list)

Calculate for non-polar organic chemicals

Entry if specify partition coefficient (option)			
Soil water partition coefficient	Kd		l/kg
Entry for non-polar organic chemicals (option)			
Fraction of organic carbon in aquifer	foc	2.73E-02	fraction
Organic carbon partition coefficient	Koc	2.51E+03	l/kg
Entry for ionic organic chemicals (option)			
Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	6.85E+01	l/kg

Define dispersivity (click brown cell and use pull down list)

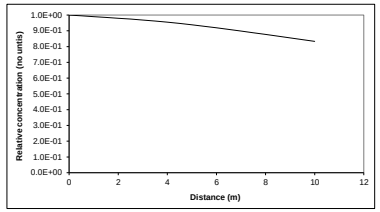
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Site being assessed:	Don Street - SA2
Completed by:	Nicola Sellars
Date:	########
Version:	1

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration (No units)	Concentration mg/l
0	1.0E+00	6.94E-04
0.5	9.95E-01	6.90E-04
1.0	9.90E-01	6.87E-04
1.5	9.85E-01	6.83E-04
2.0	9.80E-01	6.80E-04
2.5	9.74E-01	6.76E-04
3.0	9.69E-01	6.72E-04
3.5	9.62E-01	6.67E-04
4.0	9.55E-01	6.62E-04
4.5	9.47E-01	6.57E-04
5.0	9.38E-01	6.51E-04
5.5	9.29E-01	6.44E-04
6.0	9.19E-01	6.38E-04
6.5	9.09E-01	6.31E-04
7.0	8.99E-01	6.23E-04
7.5	8.88E-01	6.16E-04
8.0	8.77E-01	6.08E-04
8.5	8.66E-01	6.01E-04
9.0	8.55E-01	5.93E-04
9.5	8.44E-01	5.86E-04
10.0	8.33E-01	5.78E-04

Hydrogeological risk assessment for land contamination

Remedial Targets Worksheet , Release 3.2

First released: 2006. Version 3.2: January 2013

This worksheet has been produced in combination with the document 'Remedial Targets Methodology: Hydrogeological risk assessment for land contamination (Environment Agency 2006).

Users of this worksheet should always refer to the User Manual to the Remedial Targets Methodology and to relevant guidance on UK legislation and policy, in order to understand how this procedure should be applied in an appropriate context.

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IMPORTANT: To enable MS Excel worksheet, click Tools, Add -Ins, Analysis Tool Pak and Analysis Tool Pak-VBA (to calculate error functions)

Details to be completed for each assessment				
Site Name:	Don Street - SA2			
Site Address:	Don Street, Middleton, M24 2GG			
Completed by:	Nicola Sellars			
Date:	17-Jan-23		Version:	1
Contaminant	Zinc			
Target Concentration (C_T)	0.001	mg/l	Origin of C_T:	Conservative Value

This worksheet can be used to determine remedial targets for soils (Worksheets Level 1 Soil, Level 2 and Level 3 Soil) or to determine remedial targets for groundwater (Level 3 Groundwater). For Level 3, parameter values must be entered separately dependent on whether the assessment is for soil or groundwater. For soil, remedial targets are calculated as either mg/kg (for comparision with soil measurements) or mg/l (for comparison with leaching tests or pore water concentrations).
Site details entered on this page are automatically copied to Level 1, 2 and 3 Worksheets.
Worksheet options are identified by brown background and employ a pull-down menus. Data entry are identified as blue background.
Data origin / justification should be noted in cells coloured yellow and fully documented in subsequent reports.
Data carried forward from an earlier worksheet are identified by a light green background
It is recommended that a copy of the original worksheet is saved (all data fields in the original copy are blank).

The spreadsheet also includes a porosity calculation worksheet, a soil impact calculation worksheet and a worksheet that performs some simple hydrogeological calculations.

Remedial Targets Worksheet , Release 3.2

Level 1 - Soil

Select the method of calculating the soil water Partition Co-efficient by using the pull down menu below

User specified value for partition coefficient

Contaminant		**Zinc**		
Target concentration	C_T	**0.001**	**mg/l**	

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**
Standard entry				
Water filled soil porosity	θ_w	2.40E-01	fraction	SR3 Sand
Air filled soil porosity	θa	3.00E-01	fraction	SR3 Sand
Bulk density of soil zone material	ρ	1.18E+00	g/cm^3	SR3 Sand
Henry's Law constant	H	0.00E+00	dimensionless	
Entry if specify partition coefficient (option)				
Soil water partition coefficient	Kd	5.00E+02	l/kg	*estimate*
Entry for non-polar organic chemicals (option)				
Fraction of organic carbon (in soil)	foc		fraction	
Organic carbon partition coefficient	Koc		l/kg	
Entry for ionic organic chemicals (option)				
Sorption coefficient for neutral species	$K_{oc,n}$		l/kg	
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg	
pH value	pH		pH units	
Acid dissociation constant	pKa			
Fraction of organic carbon (in soil)	foc		fraction	
Soil water partition coefficient used in Level Assessment	**Kd**	**5.00E+02**	**l/kg**	*Specified value*

This sheet calculates the Level 1 remedial target for soils(mg/kg) based on a selected target concentration and theoretical calculation of soil water partitioning. Three options are included for determining the partition coefficient.

The measured soil concentration as mg/kg should be compared with the Level 1 remedial target to determine the need for further action.

Level 1 Remedial Target

Level 1 Remedial Target	**5.00E-01**	**mg/kg**	**(for comparison with soil analyses)**
	or		
	0.001	**mg/l**	**(for comparison with leachate test results)**

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Level 2 - Soil

Contaminant		**Zinc**		from Level 1
Target concentration	C_T	**0.001**	**mg/l**	from Level 1

This sheet calculates the Level 2 remedial target for soils (mg/kg) or for pore water (mg/l).

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 2 remedial target to determine the need for further action. Equations presented in 'Hydrogeological risk assessment for land contamiantion' (Environment Agency 2006)

Input Parameters	**Variable**	**Value**	**Unit**	**Source of parameter value**	
Standard entry					
Infiltration	Inf	1.09E-03	m/d	**1 % infiltration - Met Office**	
Area of contaminant source	A	2.50E+01	m^2	**5 x 5 m**	Not used in calculation
Entry for groundwater flow below site					
Length of contaminant source in direction of groundwater flow	L	5.00E+00	m		
Saturated aquifer thickness	da	1.20E+01	m	**estimate from borehole data**	
Hydraulic Conductivity of aquifer in which dilution occurs	K	6.36E+00	m/d	**SR3 Sand**	
Hydraulic gradient of water table	i	2.20E-02	fraction		
Width of contaminant source perpendicular to groundwater flow	w	5.00E+00	m		Not used in calculation
Background concentration of contaminant in groundwater beneath site	Cu	0.00E+00	mg/l		
Define mixing zone depth by specifying or calculating depth (using pull down list)		**Specify**			
Enter mixing zone thickness	Mz	1.14E+01	m	95 % saturated aquifer depth	
Calculated mixing zone thickness	Mz		m		

Calculated Parameters

Dilution Factor	**DF**	**2.94E+02**		
Level 2 Remedial Target		**2.94E-01**	**mg/l**	**For comparison with measured pore water concentration. This assumes Level 1 Remedial Target is based on Target Concentra**
		or		
		1.47E+02	**mg/kg**	**For comparison with measured soil concentration. This assumes Level 1 Remedial Target calculated from soil-water**

Additional option

Calculation of impact on receptor

Concentration of contaminant in contaminated discharge (entering receptor)	Cc	0.00E+00	mg/l	
Calculated concentration within receptor (dilution only)		0.00E+00	mg/l	0

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Level 3 - Soil

See Note

Environment Agency

Input Parameters	Variable	Value	Unit	Source
Contaminant		Zinc		from Level 1
Target Concentration	C_T	0.001	mg/l	from Level 1
Dilution Factor	DF	2.94E+02		from Level 2

Select analytical solution (click on brown cell below, then on pull-down menu)

Ogata Banks — Equations in HRA publication

Select nature of decay rate (click on brown cell below, then on pull-down menu)

Approach for simulating degradation of pollutants: **Apply degradation rate to dissolved pollutants only**

	Variable	Value	Unit	Source of parameter value
Enter source concentration		Soil concentration as mg/kg		
Enter soil concentration		13000	mg/kg	
Half life for degradation of contaminant in water	$t_{1/2}$	9.99E+99	days	
Calculated decay rate	λ	6.94E-101	$days^{-1}$	calculated
Width of plume in aquifer at source	Sz	5.00E+00	m	from Level 2
Plume thickness in aquifer at source	Sy	1.14E+01	m	from Level 2
Bulk density of aquifer materials	ρ	1.18E+00	g/cm^3	*SR3 Sand*
Effective porosity of aquifer	n	5.40E-01	fraction	*SR3 Sand*
Hydraulic gradient	i	2.21E-02	fraction	from Level 2 (adjusted)
Hydraulic conductivity of saturated aquifer	K	6.36E+00	m/d	from Level 2
Distance to compliance point	x	1.00E+01	m	
Distance (lateral) to compliance point perpendicular to flow direction	z		m	
Distance (depth) to compliance point perpendicular to flow direction	y		m	
Time since pollutant entered groundwater	t	9.99E+100	days	*time variant options only*
Parameters values determined from options				
Partition coefficient	Kd	5.00E+02	l/kg	*see options*
Longitudinal dispersivity	ax	1.000	m	*see options*
Transverse dispersivity	az	0.100	m	*see options*
Vertical dispersivity	ay	0.010	m	*see options*

Parameter values should be checked against Level 1 and 2

Calculated Parameters	Variable		
Groundwater flow velocity	v	2.60E-01	m/d
Retardation factor	Rf	1.09E+03	fraction
Decay rate used	λ	6.34E-104	d^{-1}
Hydraulic gradient used in aquifer flow down-gradient	i	2.21E-02	fraction
Rate of contaminant flow due to retardation	u	2.38E-04	m/d
Ratio of Compliance Point to Source Concentration	C_{ED}/C_0	9.23E-01	fraction
Attenuation factor (C_0/C_{ED})	**AF**	**1.08E+00**	**fraction**
Calculated soil leachate concentration	Co	2.60E+01	mg/l

Enter method of defining partition co-efficient (using pull down list)

User specified value for partition coefficient

Entry if specify partition coefficient (option)			
Soil water partition coefficient	Kd	5.00E+02	l/kg
Entry for non-polar organic chemicals (option)			
Fraction of organic carbon in aquifer	foc		fraction
Organic carbon partition coefficient	Koc		l/kg
Entry for ionic organic chemicals (option)			
Sorption coefficient for related species	$K_{oc,n}$		l/kg
Sorption coefficient for ionised species	$K_{oc,i}$		l/kg
pH value	pH		
Acid dissociation constant	pKa		
Fraction of organic carbon in aquifer	foc		fraction
Soil water partition coefficient	Kd	5.00E+02	l/kg

Define dispersivity (click brown cell and use pull down list)

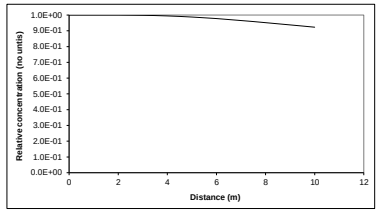
Dispersivities 10%, 1%, 0.1% of pathway length

		Enter value	Calc value	Xu & Eckstein	
Longitudinal dispersivity	**ax**	0.00E+00	1.00E+00	8.30E-01	m
Transverse dispersivity	**az**	0.00E+00	1.00E-01	8.30E-02	m
Vertical dispersivity	**ay**	0.00E+00	1.00E-02	8.30E-03	m

Note values of dispersivity must be > 0

Xu & Eckstein (1995) report ax = $0.83(\log_{10}x)^{2.414}$; az = ax/10, ay = ax/100 are assumed

Note
This worksheet should be used if pollutant transport and degradation is best described by a first order reaction. If degradation is best desribed by an electron limited degradation such as oxidation by O_2, NO_3, SO_4 etc than an alternative solution should be used



Note: 'Relative concentration' is the ratio of calculated concentation at a given position compared to the source concentration. The calculations assume plume disperses from the top of the aquifer. An alternative solution assuming the centre of the plume is located at the mid-depth of the aquifer is presented in the calculation sheets.

This sheet calculates the Level 3 remedial target for soils(mg/kg) or for pore water (mg/l), based on the distance to the receptor or compliance located down hydraulic gradient of the source Three solution methods are included, the preferred option is Ogata Banks.By setting a long travel time (e.g. 9E99) it will give the steady state solution, which should always be used when calculating remedial targets.

The measured soil concentration as mg/kg or pore water concentration should be compared with the Level 3 remedial target to determine the need for further action.

Note if contaminant is not subject to first order degradation, then set half life as 9.9E+99.

Calculated (relative) concentrations for distance-concentration graph

Ogata Banks
From calculation sheet

Distance	Relative concentration	Concentration
	(No units)	mg/l
0	1.0E+00	8.85E-02
0.5	1.00E+00	8.85E-02
1.0	1.00E+00	8.85E-02
1.5	1.00E+00	8.85E-02
2.0	1.00E+00	8.85E-02
2.5	1.00E+00	8.85E-02
3.0	9.99E-01	8.84E-02
3.5	9.97E-01	8.82E-02
4.0	9.95E-01	8.80E-02
4.5	9.92E-01	8.78E-02
5.0	9.88E-01	8.74E-02
5.5	9.83E-01	8.70E-02
6.0	9.78E-01	8.65E-02
6.5	9.72E-01	8.60E-02
7.0	9.65E-01	8.54E-02
7.5	9.59E-01	8.48E-02
8.0	9.52E-01	8.42E-02
8.5	9.45E-01	8.36E-02
9.0	9.38E-01	8.30E-02
9.5	9.30E-01	8.23E-02
10.0	9.23E-01	8.17E-02

Remedial Targets

Level 3 Remedial Target	**3.18E-01**	**mg/l**	For comparison with measured pore water concentration.
Ogata Banks	**or**		This assumes Level 1 Remedial Target is based on Target Concentration.
	1.59E+02	**mg/kg**	For comparison with measured soil concentration. This
Distance to compliance point	**10**	**m**	assumes Level 1 Remedial Target calculated from soil-water partitioning equation.
Ratio of Compliance Point to Source Concentration	**9.23E-01**	**fraction**	Ogata Banks

Care should be used when calculating remedial targets using the time variant options as this may result in an overestimate of the remedial target.
The recommended value for time when calculating the remedial target is 9.9E+99

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